

OHIO UNIVERSITY BULLETIN



THE
GRADUATE COLLEGE
1952-1954



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OHIO UNIVERSITY BULLETIN

The Graduate College



OHIO UNIVERSITY
ATHENS, OHIO

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THE UNIVERSITY CALENDAR FOR 1952-1953

THE 1952 SUMMER SCHOOL

THE EIGHT-WEEK TERM

1952			
June	16	Mon.	Term opens; advising, counseling and registration
June	17	Tues.	Classes begin
June	23	Mon.	Last day for registering for the term Last day for students writing a thesis to be admitted to candidacy*
June	25	Wed.	Last day for adding eight-week course by change order
June	28	Sat.	Last day for students in eight-week term to file application for graduation on August 9 or August 29
July	4	Fri.	Independence Day, a holiday
July	5	Sat.	Last day for partial refund of fees to students who withdraw
July	9	Wed.	Last day for candidates writing a thesis to take comprehensive examination on major course work*
July	12	Sat.	Nonthesis background examination given to majors in Education, 9 a.m.* Last day for candidates not majoring in Education to take nonthesis background examination, unless otherwise indicated by major department*
July	19	Sat.	Last day for candidates under nonthesis plan to submit scholarly paper, unless an earlier date is set by major department*
July	28	Mon.	
	to		
Aug.	2	Sat.	Registration for three-week term by students enrolled in eight-week term
Aug.	2	Sat.	Last day for candidates to take oral examination on thesis; copies of completed thesis due in hands of examining committee a week before the examination* Last day for candidates under nonthesis plan to take comprehensive examination on major course work*
Aug.	4	Mon.	Theses due in library and abstracts due in Graduate College office
Aug.	8	Fri.	Last day of classes. Final examinations, except for candidates for graduation, during the last scheduled class meeting
Aug.	9	Sat.	Term closes; commencement

*Those contemplating completion of their work in the three-week term must comply with the same dates for admission to candidacy, examinations, and submission of theses and scholarly papers as those graduating at the termination of the eight-week term.

THE THREE-WEEK TERM

Aug. 11	Mon.	Term opens; registration in morning; classes begin in afternoon
Aug. 12	Tues.	Last day to register for the term Last day to file application for graduation on August 29
Aug. 29	Fri.	Three-week courses end. Final examination during the last scheduled class meeting

FIRST SEMESTER 1952-1953

Sept. 15	Mon.	Semester opens
Sept. 16	Tues.	
	and	
Sept. 18	Thur.	Advising of degree college students
Sept. 20	Sat.	Registration
Sept. 22	Mon.	Classes begin
Sept. 29	Mon.	Last day for registering for the semester Last day for students writing a thesis to be admitted to candidacy
Oct. 4	Sat.	Last day for adding course by change order
Oct. 6	Mon.	Last day for filing application for graduation on January 31
Oct. 25	Sat.	Last day for removing incomplete grades incurred during last session in residence Last day for partial refund of fees to students who withdraw
Nov. 26	Wed.	Thanksgiving recess begins at 12:00 noon
Dec. 1	Mon.	Classes resume at 12:00 noon
Dec. 6	Sat.	Nonthesis background examination given to majors in Education, 9 a.m.
Dec. 20	Sat.	Last day for candidates writing a thesis to take comprehensive examination on major course work Last day for candidates not majoring in Education to take nonthesis background examination, unless otherwise indicated by major department Christmas recess begins at 12:00 noon

1953

Jan. 5	Mon.	Classes resume at 12:00 noon
Jan. 10	Sat.	Last day for candidates under nonthesis plan to submit scholarly paper, unless an earlier date is set by major department
Jan. 20	Tues.	Classes end
Jan. 21	Wed.	
	and	
Jan. 22	Thur.	Reading and review period; counseling and advising period
Jan. 23	Fri.	Final examinations begin

Jan.	24	Sat.	Last day for candidates to take oral examination on thesis; copies of completed thesis due in hands of examining committee a week before the examination
Jan.	24	Sat.	Last day for candidates under nonthesis plan to take comprehensive examination on major course work
Jan.	26	Mon.	Theses due in library and abstracts due in Graduate College office
Jan.	29	Thur.	Final examinations end
Jan.	31	Sat.	Semester closes

SECOND SEMESTER 1952-1953

Feb.	2	Mon.	Semester opens; counseling and advising in morning
Feb.	4	Wed.	Registration
Feb.	5	Thur.	Classes begin
Feb.	16	Mon.	Last day for registering for the semester Last day for students writing a thesis to be admitted to candidacy
Feb.	21	Sat.	Last day for adding course by change order
Feb.	23	Mon.	Last day for filing application for graduation on June 7
Mar.	14	Sat.	Last day for removing incomplete grades incurred during last session in residence Last day for partial refund of fees for students who withdraw
April	1	Wed.	Spring recess begins at 12:00 noon
April	8	Wed.	Classes resume at 12:00 noon
April	18	Sat.	Nonthesis background examination given to majors in Education, 9 a.m.
May	7	Thur.	Last day for candidates writing a thesis to take comprehensive examination on major course work
May	9	Sat.	Last day for candidates not majoring in Education to take nonthesis background examination, unless otherwise indicated by major department
May	16	Sat.	Last day for candidates under nonthesis plan to submit scholarly paper, unless an earlier date is set by major department
May	28	Thur.	Reading and review day
May	29	Fri.	Final examinations begin Last day for candidates to take oral examination on thesis; copies of completed thesis due in hands of examining committee a week before the examination Last day for candidates under nonthesis plan to take comprehensive examination on major course work
May	30	Sat.	Memorial Day, a holiday
June	1	Mon.	Theses due in library and abstracts due in Graduate College office
June	5	Fri.	Final examinations end
June	7	Sun.	Semester closes; commencement

THE UNIVERSITY CALENDAR FOR 1953-1954

THE 1953 SUMMER SCHOOL

Announcements will be made in the Summer School Bulletin

FIRST SEMESTER 1953-1954

Sept.	21	Mon.	Semester opens Dates for counseling, advising, registration, and beginning of classes will be announced in Schedule of Classes
Oct.	5	Mon.	Last day for registering for the semester Last day for students writing a thesis to be admitted to candidacy
Oct.	10	Sat.	Last day for adding course by change order
Oct.	12	Mon.	Last day for filing application for graduation on February 6
Oct.	31	Sat.	Last day for removing incomplete grades incurred during last session in residence Last day for partial refund of fees to students who withdraw
Nov.	25	Wed.	Thanksgiving recess begins at 12:00 noon
Nov.	30	Mon.	Classes resume at 12:00 noon
Dec.	5	Sat.	Nonthesis background examination given to majors in Education, 9 a.m.
Dec.	19	Sat.	Christmas recess begins at 12:00 noon
1954			
Jan.	4	Mon.	Classes resume at 12:00 noon
Jan.	6	Wed.	Last day for candidates writing a thesis to take comprehensive examination on major course work
Jan.	9	Sat.	Last day for candidates not majoring in Education to take nonthesis background examination, unless otherwise indicated by major department
Jan.	16	Sat.	Last day for candidates under nonthesis plan to submit scholarly paper, unless an earlier date is set by major department
Jan.	26	Tues.	Classes end
Jan.	27	Wed.	
	and		
Jan.	28	Thur.	Reading and review period; counseling and advising period
Jan.	29	Fri.	Final examinations begin
Jan.	30	Sat.	Last day for candidates to take oral examination on thesis; copies of completed thesis due in hands of examining committee a week before the examination Last day for candidates under nonthesis plan to take comprehensive examination on major course work
Feb.	1	Mon.	Theses due in library and abstracts due in Graduate College office
Feb.	4	Thur.	Final examinations end
Feb.	6	Sat.	Semester closes

SECOND SEMESTER 1953-1954

Feb.	8	Mon.	Semester opens; counseling and advising in morning
Feb.	10	Wed.	Registration
Feb.	11	Thur.	Classes begin
Feb.	22	Mon.	Last day for registering for the semester Last day for student writing thesis to be admitted to candidacy
Feb.	27	Sat.	Last day for adding course by change order
Mar.	1	Mon.	Last day for filing application for graduation on June 13
Mar.	20	Sat.	Last day for removing incomplete grades incurred during last session in residence Last day for partial refund of fees for students who withdraw
April	14	Wed.	Spring recess begins at 12:00 noon
April	21	Wed.	Classes resume at 12:00 noon
April	24	Sat.	Nonthesis background examination given to majors in Education, 9 a.m.
May	13	Thur.	Last day for candidates writing a thesis to take comprehensive examination on major course work
May	15	Sat.	Last day for candidates not majoring in Education to take nonthesis background examination, unless otherwise indicated by major department
May	22	Sat.	Last day for candidates under nonthesis plan to submit scholarly paper, unless an earlier date is set by major department
May	31	Mon.	Memorial Day, a holiday
June	4	Fri.	Reading and review day
June	5	Sat.	Final examinations begin Last day for candidates to take oral examination on thesis; copies of completed thesis due in hands of examining committee a week before the examination Last day for candidates under nonthesis plan to take comprehensive examination on major course work
June	7	Mon.	Theses due in library and abstracts due in Graduate College office
June	11	Fri.	Final examinations end
June	13	Sun.	Semester closes; commencement

PICTURES IN THE BULLETIN

(In order of appearance)

Director of Graduate Studies and a Counselee
Century-Old McGuffey Elms and Auditorium
Bryan Hall—A Residence Hall for Girls
Dramatic Art and Speech Building
A Chemistry Laboratory
A Zoology Laboratory
A Home Economics Laboratory
Swimming Pool in Natatorium

OHIO UNIVERSITY

THE GRADUATE COLLEGE

JOHN CALHOUN BAKER, M.B.A., LL.D.-----*President of the University*
Cutler Hall
DONALD ROOP CLIPPINGER, Ph.D.-----*Director of Graduate Studies*
Cutler Hall
CONSTANCE ANDREWS SANDS, A.M.-----*Secretary of the Graduate College*
Cutler Hall

ADMINISTRATIVE OFFICERS IN THE COLLEGES

EDWIN JAMES TAYLOR, JR., M.S.---*Dean of the College of Applied Science*
Engineering Building
GEORGE WILLIAM STARCHER, Ph.D.-----*Dean of the College of Arts and*
Cutler Hall *Sciences*
WILLIAM HENRY FENZEL, B.C.S., A.B.-----*Acting Dean of the College of*
Ewing Hall *Commerce*
GEORGE JULE KABAT, Ph.D.-----*Dean of the College of Education*
Cutler Hall
EARL COVERT SEIGFRED, Ph.D.-----*Dean of the College of Fine Arts*
Cutler Hall
RUSH ELLIOTT, Ph.D.-----*Dean of the University College*
Cutler Hall
CLAUDE EDGAR KANTNER, Ph.D.-----*Director of the School of Dramatic*
Speech Building *Art and Speech*
VIVIAN MAE ROBERTS, Ph.D.---*Director of the School of Home Economics*
Agriculture and Household Arts Building
LOREN JOSEPH HORTIN, A.M.-----*Acting Director of the School of*
Ewing Hall *Journalism*
KARL AHRENDT, Ph.D.-----*Director of the School of Music*
Music Hall
LAWRENCE CARL MITCHELL, A.M.-----*Director of the School of Painting*
Ellis Hall *and Allied Arts*

THE GRADUATE COUNCIL

DONALD R. CLIPPINGER, Ph.D., Professor of Chemistry, Chairman; PAUL R. MURPHY, Ph.D., Associate Professor of Classical Languages, Secretary; HARRY E. BENZ, Ph.D., Professor of Education and Director of the Summer School; ROBERT F. CREEGAN, Ph.D., Assistant Professor of Philosophy; JOHN E. EDWARDS, Ph.D., Professor of Physics; GEORGE E. HILL, Ph.D., Professor of Education; FREDERICK D. KERSHNER, JR., Ph.D., Assistant Professor of History; ARTHUR C. LAFOLLETTE, Ph.D., Associate Professor of Dramatic Art and Speech; JOHN A. LEAVITT, Ph.D., Associate Professor of Finance; CORA MILLER, Ph.D., Associate Professor of Home Economics; WILLIAM C. STEHR, Ph.D., Professor of Entomology.

GENERAL INFORMATION

THE UNIVERSITY

Ohio University, established in 1804, is the pioneer institution of higher learning in the Northwest Territory. It is an accredited, coeducational, state-supported university with almost a century and a half of history and educational service in its background.

It was founded and conducted during the early years of its existence as a college devoted to the arts and sciences. It remained a liberal arts college throughout the nineteenth century with only gradual expansion and a few changes in policy. By the turn of the century, however, a growing need for teachers called for a professional educational program. In 1902, the University was expanded to include a college for the training of teachers. Meanwhile, the general tendency for higher education in many fields had been definitely manifesting itself in increased enrollment and the demand for a broader curriculum. This was particularly noted in the fields of electrical engineering and commerce which had been introduced in the College of Arts as early as 1890 and 1893 without perceptible effect upon the organization of the University.

In the years of constant growth that followed, the University at all times endeavored to keep pace with the growing need, until it became evident that the traditional division into a College of Liberal Arts and a College of Education no longer represented the curricula offered in the University. In the spring of 1936, the Graduate College was established. Further reorganization has followed in accord with the enlarged offerings until at present the University is composed of the following colleges and other major units:

- The University College
- The College of Applied Science
 - The School of Home Economics
- The College of Arts and Sciences
- The College of Commerce
 - The School of Journalism
- The College of Education
- The College of Fine Arts
 - The School of Dramatic Art and Speech
 - The School of Music
 - The School of Painting and Allied Arts
- The Graduate College
- The Division of Physical Education and Athletics
- The Reserve Officers' Training Corps Division
- The University Extension Division
- The Summer School
- The Branches

LOCATION

The city of Athens, seat of the University, is located in scenic southeastern Ohio and has a population of 11,660. Neither large nor extremely small, the city exists chiefly because of the University and for its welfare. The relations between its citizens and the members of the university community are, therefore, markedly cordial.

Free from the distractions of a metropolitan center, Athens offers many advantages to the person who desires to pursue university work in an atmosphere of culture and relative quiet.

Athens is conveniently accessible by automobile on U. S. Routes 33 and 50 and State Route 56. The city is on the main New York—St. Louis route of the Baltimore and Ohio Railroad. North and south bus service is provided by the Lake Shore System; east and west service, by the Capital Greyhound Lines.

THE SESSIONS

The sessions of the University consist of two eighteen-week semesters and a summer school. The summer school consists of two terms: an eight-week term (equivalent to a half semester), and a three-week term immediately following the eight-week session. Little if any work at the graduate level is offered during the three-week session.

DEGREES GRANTED

In addition to fourteen baccalaureate degrees, the following masters' degrees are granted by Ohio University: Master of Arts, Master of Education, Master of Fine Arts, and Master of Science.

ACCREDITATION

Ohio University and its divisions belong to, or are approved by, the following educational and professional associations:

- The Association of American Universities
- The North Central Association of Colleges and Universities and Secondary Schools
- The Association of American Colleges
- The Ohio College Association
- The Ohio State Department of Education
- The American Association of University Women
- The National Association of Schools of Social Administration
- The American Chemical Society
- The American Psychological Association
- The American Council for Education in Journalism
- The National Association of Schools of Music
- The American Association of Colleges for Teacher Education
- The American Association of Collegiate Schools of Business
- Board of Registry, American Society of Clinical Pathologists
- Engineers Council of Professional Development

UNIVERSITY HEALTH CENTER

The services and facilities of the new, half-million-dollar University Health Center are available to all regularly enrolled students of the University. The Center includes a complete clinic with X-ray and minor surgery, a forty-bed infirmary with an isolation wing, and a physiotherapy department. Payment of the health fee entitles a student to (1) outpatient clinic service, which usually includes medications; (2) hospitalization in the infirmary without charge, subject to the judgment of the staff doctors; (3) consultations with outside specialists at the discretion of the director; and (4) emergency service at all hours.

New students, unless coming for the summer terms only, must present evidence of vaccination against smallpox within the last five years before being admitted to Ohio University. A blank certificate giving detailed instruction is sent to each applicant for admission and must be returned to the Director of Admissions properly completed and signed.

UNIVERSITY LIBRARY

The Library is the center—the heart—of the University. Its collections are housed in the Edwin Watts Chubb Library, a building erected in 1930 and named in honor of a former dean of the College of Arts and Sciences and president of the University.

The main collection of more than 200,000 volumes, including periodical sets, documents, and pamphlets, is shelved chiefly in the stacks to which all students have direct access. A reference collection of several thousand volumes is in the Reading Room and current issues of more than 1,000 periodicals and newspapers are in an adjoining Periodical Room. Books reserved in courses at faculty request are on the ground floor. The Athenian Room serves as a history reading room; the Philomathean Room as a reading room for literature. Selected items are on display in the former, illustrating the history of the University and the state. A browsing room contains books of general interest for pleasure reading.

COUNSELING SERVICE

Complete vocational counseling is available to interested students. Educational and vocational plans are developed on the basis of a survey of the abilities, interests, aptitudes, achievements, and also on the basis of the requirements for the occupations and their training programs. A fee of \$5 is charged to cover the cost of tests and test scoring. Application for this service may be made by contacting the staff of the Testing and Counseling Service in room 203, Carnegie Hall.

BUREAU OF APPOINTMENTS

Assistance in securing positions in such fields as teaching, business, and industry may be obtained by students and graduates of the University from the Bureau of Appointments. There is no registration fee, and no charge is made for service while an applicant for assistance is en-

rolled as a student in the University or during his first year out of school. After the one-year period a charge of \$2 a year is made for each year in which assistance is requested.

The Bureau maintains and promotes all possible connections with prospective employers for the benefit of persons seeking initial placement and for those looking toward advancement to better positions.

STUDENTS FROM ABROAD

Ohio University welcomes students from abroad who show promise of profiting from educational opportunities in this country and has prepared a special bulletin for the benefit of prospective students from outside the continental limits of the United States. This bulletin may be obtained by writing to the Advisor to Foreign Students, Ohio University, Athens, Ohio.

RECREATION

Among the recreational facilities of particular interest to graduate students is the University's new Natatorium. Conveniently located adjacent to the main campus, the building is featured by a pool, 42 feet wide by 75 feet long, with six standard racing lanes and a rated capacity of 116 persons. The pool is equipped with submerged lighting, Olympic-style starting blocks, and one-meter and three-meter diving boards.

Tennis and handball courts are available to all students.

Dramatic productions by the University Theatre and the University Playshop are scheduled at frequent intervals for the enjoyment of students and members of the local community.

Under the sponsorship of the Men's Independent Association, feature motion picture productions are shown three nights each week in Alumni Memorial Auditorium.

Not many miles distant from Athens, and suitable as weekend diversions, are the attractions of two of the state's most scenic areas—Lake Hope, in the heart of the Zaleski State Forest, and the caves and gorges of the Hocking Park Area.

HOUSING AND FOOD SERVICE

APPLICATIONS. Applications for rooms in either the women's residence halls or men's dormitories should be made to the Director of Student Housing, Ohio University, Athens, Ohio. An application is considered only if accompanied by a \$5 retaining fee made payable to OHIO UNIVERSITY. (*Applicants for mid-year entrance submit \$2.50.*) The retaining fee is applied to the social fund of the residence halls.

BOARD. The cost of board in university halls is \$180 a semester. Board rates are subject to revision, upward or downward, in accordance

with prevailing economic conditions. Residents in all university housing accommodations are required to eat in university dining halls. Exemptions from this requirement are granted to students who receive all meals in exchange for work. Requests for exemptions are considered by the Director of Student Housing.

ROOMS. Room rates in university residence halls and cottages range from \$58.50 to \$81 a semester, with the exception of Bryan Hall (women) which range from \$81 to \$100 a semester. Room rates include telephone, mail and linen services.

Rooms in all residence halls are furnished with dressers, study tables, chairs, beds, and *bed linen*. *The University provides for the laundering of bed linen.* Window draperies, lamps, blankets, and other furnishings may be supplied by the student.

WOMEN. There are four residence halls and eight university-owned cottages for women. The residence halls are Boyd Hall, Howard Hall, Lindley Hall, and Bryan Hall.

MEN. The facilities for men include two residence halls—Scott Quadrangle and East Green Dormitory—and eighteen barrack-type dormitories on the East Green.

All of the men's and women's housing facilities are adjacent to the campus.

Following the assignment of a student to a place in a residence hall, an advance payment is required. The advance payment, together with the deadline for its receipt, will be indicated in the assignment letter. If desired, board may be paid in full at this time, or in installments during the semester on dates determined by the Treasurer's Office. Schedule of payment and dates will be available on request.

There is a \$1 key deposit which is refunded upon return of the key when the room is vacated.

Students living in private homes may arrange at any time during the semester to eat in university dining rooms, but must continue with such arrangements until the end of the semester, unless special permission to withdraw is granted by the Director of Student Housing.

Each dining room in the residence hall system is under the management of a competent dietitian who serves as a member of the staff of the Director of Residence Services.

CANCELLATIONS AND REFUNDS. Full refund will be made to a person requesting cancellation of his room reservation by September 1, for the fall semester, and by January 15, for the spring semester. After these dates a person who fails to occupy assigned quarters will forfeit an amount equal to the minimum room charge for the semester, unless the room can be re-rented.

A student withdrawing during the semester will be refunded the unused portion of his or her board payment; the unused portion of the room rent will be refunded if the quarters can be re-rented. All vacan-

cies will be filled in the order in which they occur. Students withdrawing from a housing unit under disciplinary action forfeit the return of any portion of the room rent.

Room and board refund requests must be made not later than three months after the end of the semester in which the withdrawal occurred.

ROOMS IN PRIVATE HOMES

Rooms in private homes are listed in the office of the Director of Student Housing. Rooms are not listed until they have been inspected and approved by a member of the staff of the Director of Student Housing or of the Dean of Women.

A student renting a room in a private home is expected to remain in the home for one semester unless satisfactory arrangements are made with the householder.

HOUSING FOR MARRIED STUDENTS

The University has 112 apartment units located on East State Street, approximately two miles from The Green. Each of these apartments has a living room, bedroom, kitchen, and bathroom with an abundance of closet space. Each apartment is provided with a gas cooking range, ice refrigerator, and a gas heating unit. Tenants must arrange to supply the additional needed articles. The rent for each apartment is \$33.50 a month, payable in advance. The rental charge includes all utilities and garbage disposal.

East of these apartments there are some prefabricated units which accommodate 15 families. The rent for each unit is \$25 a month, payable in advance. Each family unit is complete within itself. Though small, it is compact, efficient, and quite livable.

Convenient bus service is maintained by the University, on an hourly schedule when classes are in session, at no cost to the occupants of the East State Street residential area.

For further information concerning quarters for married students write to the Director of Student Housing, Ohio University, Athens, Ohio.

TRAILER PARK

The University Trailer Park, which will accommodate 33 privately-owned house trailers, is located on East State Street adjacent to the University Airport. Space rental for a trailer is \$8 a month, which includes water and sewage service. The rental charge does not cover electricity. Excellent toilet, bathing, and laundry facilities are provided for all trailer occupants. Free bus transportation to the campus is provided by the University.

ADMISSION AND REGISTRATION

ADMISSION*

All correspondence pertaining to the admission of a student to the University should be addressed to the Director of Admissions and University Examiner, Ohio University, Athens, Ohio.

Students are accepted for admission to the University at the beginning of each of the semesters of the regular year and at the beginning of the eight-week summer term.

Application for admission consists of the presentation of an application blank filled in by the applicant, an official transcript of college credit, two small photographs of the applicant, a vaccination blank certified by a physician, and a medical history blank filled in by the applicant and completed by a physician. The vaccination and medical history blanks are not required if a student plans to attend the summer session only as a special student.

Application for admission to the University does not constitute an application for a room. For information concerning application for living quarters, see "Housing and Food Service" on page 11.

An applicant for admission to Ohio University who lives outside the state must be eligible to enter his own state university.

A student who is attending another university may be admitted for the summer session as a special transient student by presenting an official statement of good standing from the university in which he is enrolled. Admission for the summer school only as a special student does not constitute admission to the regular academic year.

FEES AND DEPOSITS

Official enrollment is completed upon the payment of the fees assessed, and a student is not registered in the University until all fees have been paid in full or satisfactory arrangements have been made with the University Treasurer. Fees are payable at the office of the Treasurer at registration time. Checks and money orders will be acceptable if they are made payable to OHIO UNIVERSITY for the exact amount due.

Ohio University reserves the right to make, without prior notice, any fee adjustments that may become necessary before the appearance of the next catalog.

The discharge of all financial obligations to the University is a prerequisite to graduation and the granting of a degree.

The fees for graduate students are the same as those for undergraduates. The following statement of fees approximates the expense of instruction at Ohio University but does not include laboratory fees or fees for private music instruction which are assessed in addition to the general registration fees. The amounts of these fees are indicated under the departmental course descriptions. Certain other miscellaneous fees are indicated in the General Catalog.

*For specific scholastic requirements for admission, see page 17.

REGISTRATION FEES		Resident of Ohio*	Non- Resident
The Semester:			
Normal Load: (12 to 16 semester hours, inclusive)			
General registration fee	-----	\$52.50	\$127.50
Student activity fee	-----	7.50	7.50
Student Union fee	-----	5.00	5.00
Health fee	-----	7.50	7.50
Library fee	-----	1.00	1.00
Semester total	-----	\$73.50	\$148.50

Part-time Load:

1 to 6 semester hours, inclusive, (only the general registration fee is assessed) for each semester hour	-----	\$6.00	\$7.00
Above 6 semester hours (Activity, Union, Health, and Library fees as above are charged), general registration fee for each semester hour, total not to exceed fee for normal load	-----	\$6.00	\$12.00

Auditors:

Fees in full as above

The Summer School:

Fees for each term are proportionate amounts of the semester fees. See Summer School Bulletin for details.

Extension Class:

Registration fee, each semester hour	-----	\$6.00	\$7.00
The per hour fee is increased if a class is organized with an enrollment below the required quota.			

MISCELLANEOUS FEES

Bureau of Appointments, renewal of registration	-----	2.00
Change order	-----	1.00
Duplicate Fee Card	-----	.75
Graduation—		
Application for degree	-----	10.00
Re-application	-----	2.00
Penalty for late application	-----	5.00
Diploma mailing fee for those absent from commencement	-----	2.00
Thesis Abstract Printing	-----	3.00
Thesis Binding, each copy	-----	2.00
Transcript of record, after first transcript request	-----	1.00
Transcript of record, each copy after the first copy of a group request	-----	.50

*See statement defining legal residence on page 16.

EXPENSE ESTIMATE

The following is an estimate of expenses for one eighteen-week semester at Ohio University:

General registration fee* -----	\$ 52.50
Student activity fee -----	7.50
Health fee -----	7.50
Student Union fee -----	5.00
Library fee -----	1.00
Rent of room in dormitory (average rental) --	67.50
Board in dormitory -----	180.00
Total for semester -----	<u>\$321.00</u>

All of the above expenses are fixed in nature and amount. The estimate does not include the cost of laboratory fees and books, which varies with the curriculum being pursued and amounts to around \$40 a semester for the average graduate student.

The real differences in the costs of attending the University are to be found in such maintenance expenditures as those for laundry, clothes, recreation, and other incidentals. These may vary greatly and are determined by the individual's tastes and interests and the amount of his resources.

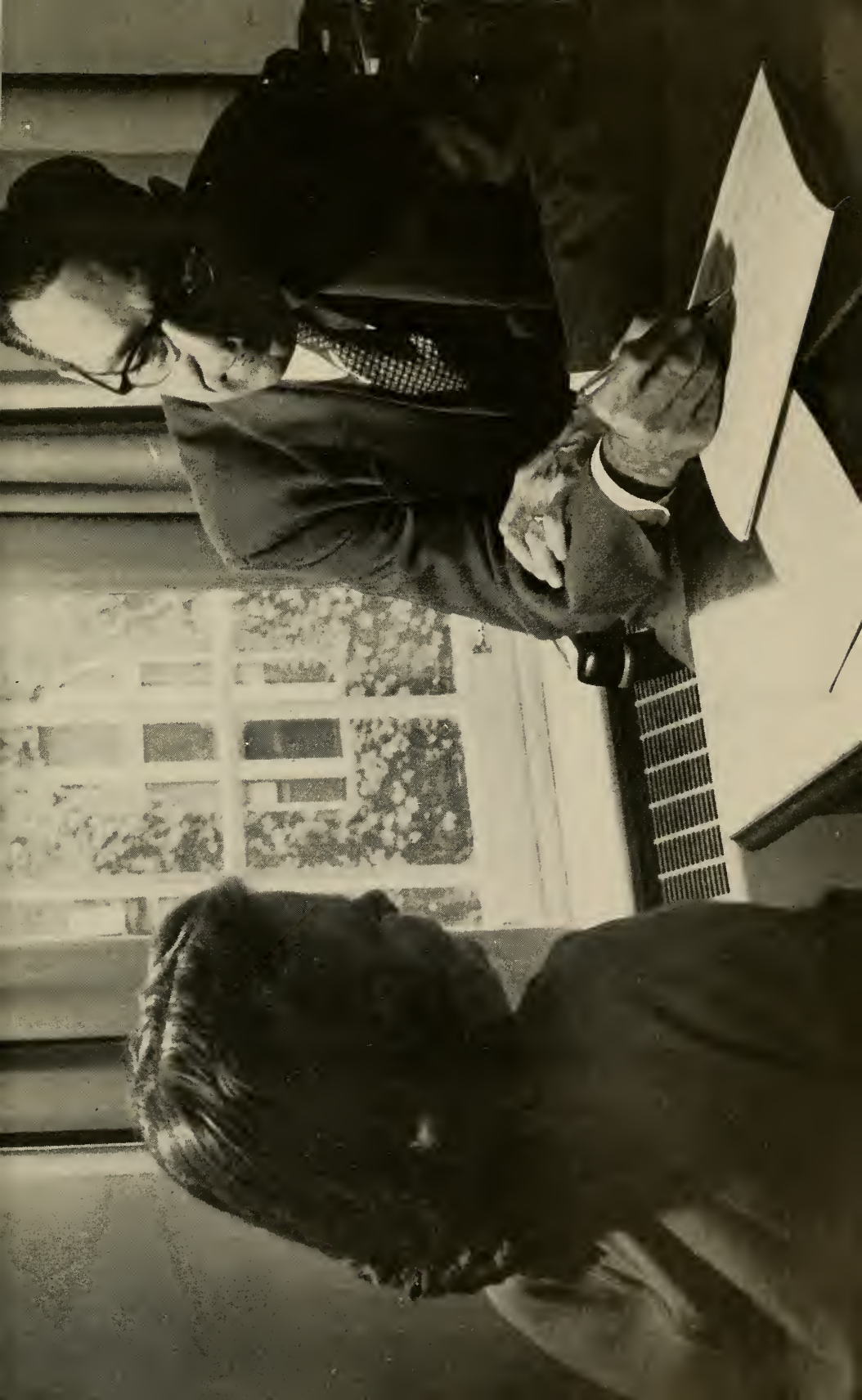
The University does not make provision for handling student accounts, this service being available through local banks.

LEGAL RESIDENCE

The general registration fee for non-residents of the State of Ohio is higher than for residents of the state. A person is entitled to register as a resident of Ohio who, at the time of first enrollment in the University, has been a resident of the State of Ohio for 12 consecutive months next preceding the date of his original enrollment. No person is considered to have gained or lost residence in the state for the purpose of registering in the University by any conduct of his own while he is a student in the University, unless after attendance at the University for one year it can be clearly established by the student that his previous residence has been abandoned and a new one established in Ohio for purposes other than merely attendance at Ohio University. A person whose legal residence follows that of other persons is considered to have gained or lost legal residence in this state for such purposes while a student in the University according to changes of legal residence of such other persons, except that such legal residence is not considered to be so gained until 12 months after such persons become legal residents of this state.

The residence of minors follows that of the legal guardian, regardless of emancipation; but in case a resident of Ohio is appointed guardian of a non-resident minor, the legal residence of such minor for the purpose of this rule is not considered to be established in the State of Ohio until the expiration of 12 months after such appointment.

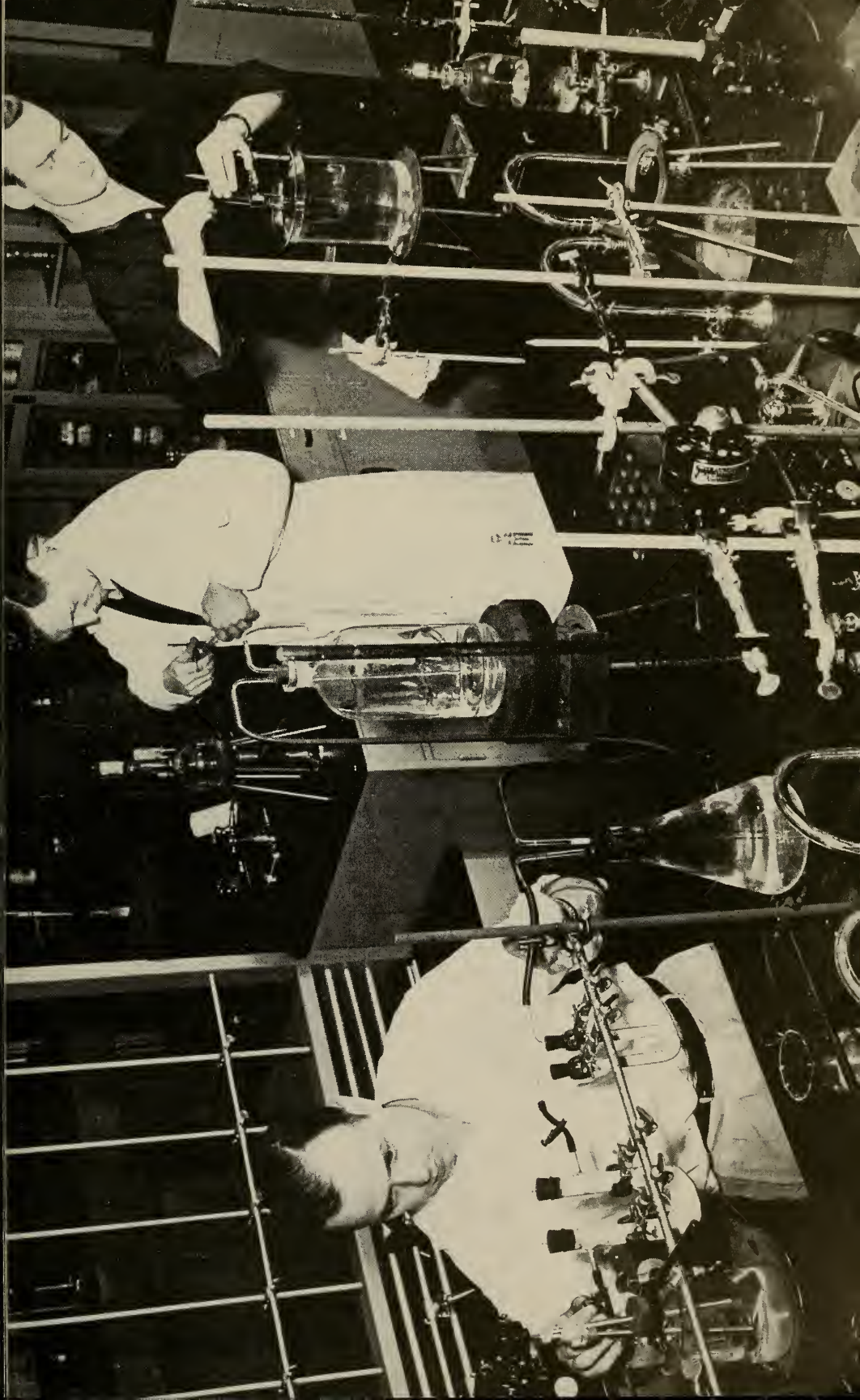
*The registration fee for a student who is not a resident of Ohio is increased by the non-resident fees. See "Fees and Deposits," page 15.





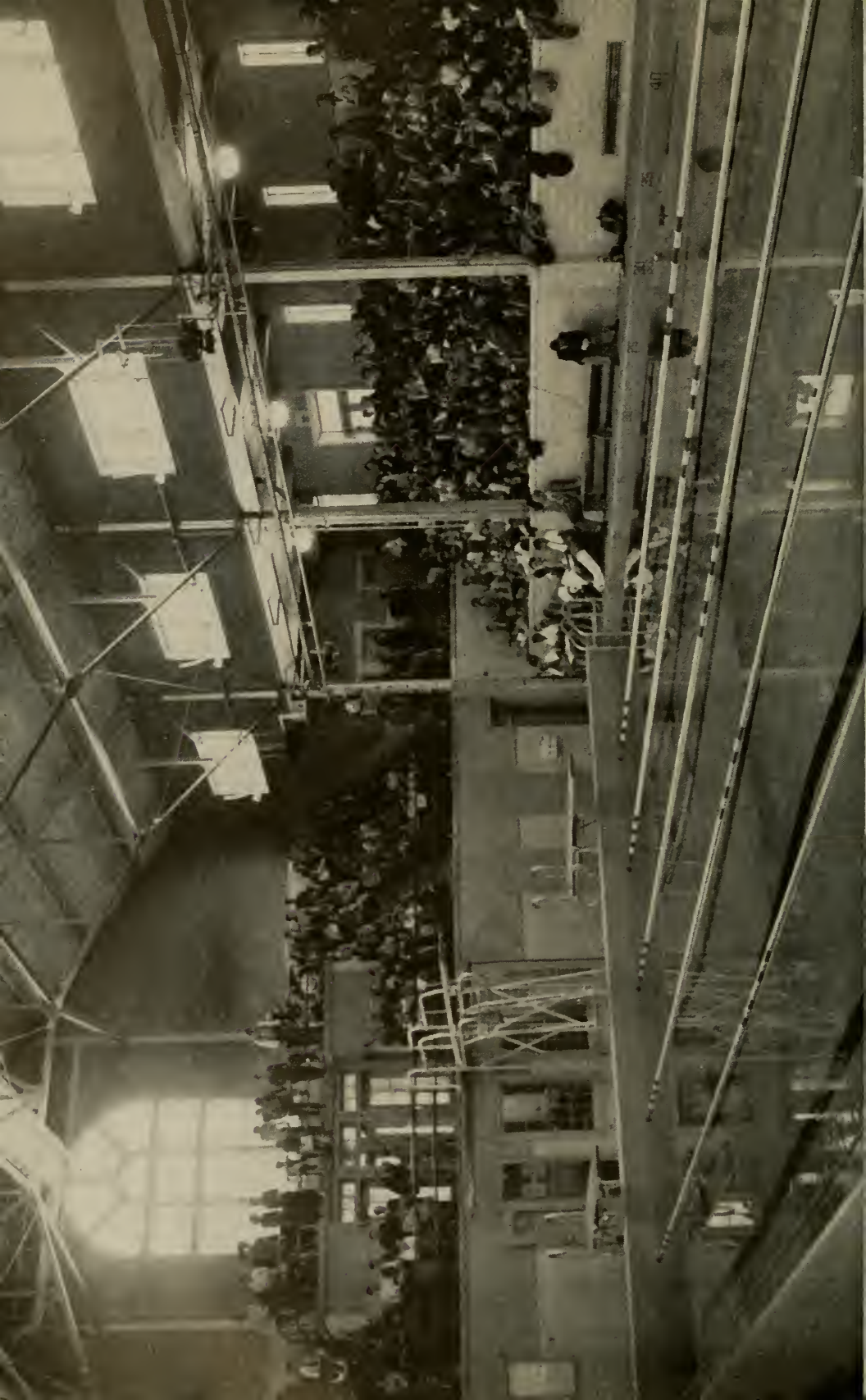












THE GRADUATE COLLEGE

The graduate program at Ohio University provides advanced professional training in the area of a student's field of specialization and affords opportunities for the conduct of research and special investigations in these same areas. The program of graduate study should become an initiation into methods of intensive study and research in some selected area of knowledge. It is the objective of the Graduate College to provide its students with a high degree of professional competence.

The Graduate College confers the degree of Master of Arts, Master of Education, Master of Science, or Master of Fine Arts through the programs of instruction provided by the colleges of Arts and Sciences, Education, Commerce, Applied Science, Fine Arts, and the Division of Physical Education and Athletics.

ADMISSION. In general, students who hold a bachelor's degree from an accredited college or university and who have attained an undergraduate scholastic average of 2.5 or above will be admitted to the Graduate College. Point averages are based on a 4 point system: A-4, B-3, C-2, D-1. Some departments (see departmental requirements) have a higher scholastic requirement. For this reason, final written approval for admission rests with the Director of Graduate Studies and the chairman of the graduate committee of the school or department in which the applicant chooses to do the major work.

Graduates from accredited universities with less than the required 2.5 scholastic average may be admitted if they achieve a satisfactory score on the Graduate Record Examination or a B level (70 percentile rank) on a standard college ability test* and receive the recommendation of the chairman of the graduate committee in the area of their major.

Applicants who hold the bachelor's degree from unaccredited institutions must have a 2.5 undergraduate scholastic average and comply with the requirements of the preceding paragraph relative to the Graduate Record Examination or college ability test.

Correspondence concerning admission to the Graduate College should be directed to the Director of Admissions. Application for admission is made on a form obtainable from the Director of Admissions. The form, when returned to the Director of Admissions, must be accompanied by an official transcript of the applicant's record. A graduate of Ohio University need not comply with the transcript requirement. The application should be filed with the Director of Admissions a month in advance of the term in which the applicant wishes to register.

*Information regarding this examination may be had at the office of the Director of Admissions or the office of the Supervisor of Testing Service. While it is not required, except as indicated above, applicants for admission may submit their scores on the Graduate Record Examination as valuable evidence of fitness for admission. The Graduate Record Examination, with which Ohio University and other universities have had several years of experience, is a test of general, intellectual equipment. It is now being made widely available to prospective graduate students by Carnegie Foundation for the Advancement of Teaching. Those who have taken this test are urged to have the Graduate Record Office report their scores to the Director of Admissions. Examinations will be given in February, May, August, and October. Further information about the Graduate Record Examination may be obtained by writing to The Graduate Record Office, 437 West 59th Street, New York 19, New York.

Admission to the Graduate College does not imply admission to candidacy for a degree. The student is referred to a subsequent paragraph on the requirements for admission to candidacy.

SPECIAL STUDENTS. A student who is qualified to enter the Graduate College but who pursues courses with no regard to a major or minor and with no thought of qualifying for a master's degree is classified as a special student.

SENIORS AND GRADUATE STUDY. A student who is within nine hours of completing all requirements for the bachelor's degree at Ohio University may take courses applying toward the master's degree, provided he otherwise meets the requirements of admission and secures the written recommendation from the dean of his college, the chairman of his major department, and approval of the Director of Graduate Studies. Request for the above privilege must be made in advance of registration through the Graduate College office.

REGISTRATION AND ASSIGNMENT TO ADVISORS. A student who qualifies for admission to the Graduate College receives a permit to register. He then confers with the Director of Graduate Studies concerning the general nature of his interests in graduate study and is directed to the dean of the college or chairman of the graduate committee who has supervision over the subject matter area. This dean or chairman will assign a faculty advisor in the major and minor to counsel with the graduate student and prepare the outline of graduate study. The outline should be completed within the first month of the student's residence and returned to the Graduate College office where it is filed and becomes a part of the record of the graduate student.

CREDIT AND RESIDENCE. At last 32 semester hours of credit are required for the master's degree. A maximum of eight semester hours of credit with A or B grades is accepted by transfer from approved institutions which offer the master's degree, provided the transferred course work is acceptable to the student's advisor and is *not more than five years old*. Credit for courses taken by correspondence is not accepted toward the degree. *A maximum of six semester hours taken in extension classes is accepted toward the degree, provided the courses are conducted by instructors who regularly teach them on the campus.* A graduate student who is employed full time may, with the approval of his major advisor and the Director of Graduate Studies, carry a maximum of six hours of credit work in a semester or summer session.

After securing a bachelor's degree, an adequately prepared student may be able to complete the work for the master's degree in one year of two semesters, in four eight-week terms of the summer session, or in a minimum of three eight-week summer terms and two three-week terms. Many students find it necessary to take two semesters and a summer session for the course work and the thesis. The minimum residence requirement is 30 weeks. A transfer student is required to have a minimum residence at Ohio University of one semester and one eight-week summer term, or three eight-week summer terms, or at least 24 weeks. A student who takes courses for graduate credit in extension classes is

required to have a minimum residence at Ohio University of one semester and an eight-week summer term, or three eight-week summer terms or at least 24 weeks.

TIME LIMIT FOR GRADUATE PROGRAM. The maximum time allowed between the date when a student is admitted to the Graduate College and begins graduate study and the date when the requirements for the degree are completed is six years. Students who do not complete their requirements for the degree within the six-year period are obliged to have their graduate outlines reviewed and revised in the light of current catalog requirements. An extension of time is given upon request to students who served in the armed forces and to other students whose circumstances are exceptional.

STANDARDS OF WORK. All work submitted for graduate credit shall be of high quality. *The minimum standard acceptable is a point-hour ratio of 3.0 in all courses attempted in fields chosen to meet degree requirements, with no grade below C, and not more than 20 per cent of the work accepted with a grade of C.* A minimum average grade of B is required in all courses taken at Ohio University for application on the degree requirements. The grade of "incomplete" on a problem, research, or seminar course must, by arrangement with the instructor, be removed within one year after the official closing of the session in which the course was taken. An incomplete in all other courses must be removed within six weeks after the opening of the next session in which the student is in residence. The grade for thesis is indicated as deferred and is removed with the completion of the thesis.

COURSES FOR GRADUATE STUDY. Credit toward a graduate degree is given for the completion of courses designed for graduate students (numbered 400-499) and courses designed for advanced undergraduates and graduates (numbered 300-399), provided the courses are included in the student's approved program of study.

PROGRAM OF STUDY AND STUDENT LOAD. A student's program of study is made up of two parts, a major and a minor, unless a program otherwise arranged is approved by the advisor and the graduate committee of the department. Since graduate work implies advanced study and some degree of specialization, a certain amount of undergraduate preparation in a subject or field of study is presupposed before graduate study may be undertaken in that subject or field. Naturally, the undergraduate preparation required to begin a graduate major is greater than that required to begin a graduate minor. In most departments a minimum of 18 semester hours of undergraduate work is required to begin a graduate major while 6 to 12 semester hours is required for the minor. The student is referred to the requirements listed by departments. The program in the major field varies from 12 to 20 semester hours exclusive of research and thesis (under the thesis plan), with 4 to 6 semester hours allowed for research and the thesis. The minor field in such cases makes up the remainder of the 32 semester hours required for the degree, and is selected from one or two fields of instruction closely related to the major field. However, all of the work for the

master's degree may be done in one department, school, or field on recommendation of the advisor and with the approval of the graduate committee of the department.

A graduate student in social science may follow any one of three optional plans of graduate study. Two of these plans are designed particularly for graduate students who have completed an undergraduate comprehensive social science major and who desire to continue this broad preparation at the graduate level. Students pursuing graduate study for personnel work or in the field of Human Relations are required to have a broad undergraduate preparation in the social sciences. Their graduate outlines will be made to suit individual requirements. Further information regarding these plans may be secured at the office of the Graduate College.

A program of graduate study without the thesis requirement is now available to graduates preparing for educational work in the public schools. Students desiring the Master of Education degree may have a program of study arranged with or without thesis, provided the program is approved by the committee on graduate study in the major department. See section on Requirements for the Master's Degree.

The full-time load for a graduate student is considered to be 16 credit hours per semester (8 hours in the summer session). A student wishing to register for extra hours must secure approval of his major advisor and the Director of Graduate Studies.

Graduate assistants or fellows normally carry a load of 8 hours, though with the approval of the department chairman and the Director of Graduate Studies, additional work not exceeding a total of 12 hours a semester may be carried. The fellow or assistant gives 18 hours of service to the department of his major.

ADMISSION TO CANDIDACY. Admission to the Graduate College does not constitute admission to candidacy for a degree. In order to be admitted to candidacy for the master's degree, a student must have demonstrated ability and fitness to pursue graduate work in his chosen field by satisfactorily completing a minimum of 12 semester hours of graduate work within his program of graduate study. A further condition of admission to candidacy is the selection of a thesis subject* acceptable to the major advisor and approved by the Graduate Council. Application for admission to candidacy is made on a form obtainable at the Graduate College office at a date not later than two weeks (one week in the summer session) following the opening of the session in which the degree is to be conferred.

REQUIREMENTS FOR THE MASTER'S DEGREE. For the M.A., M.S., or M.F.A. degree, as partial fulfillment of the requirements for the master's degree, each candidate shall prepare a thesis† under the direction of his advisor on a subject approved by the committee on graduate study

*No thesis is required of the candidate for the M.Ed. degree under Option 2. However students electing Option 2 must apply for admission to candidacy immediately upon completing a minimum of 12 hours of work. See item 3 under M.Ed. Degree.

†Students in applied music who take the M.F.A. degree may offer a public recital and a recording in lieu of thesis. Arrangements for the recording will be made through the Radio Department.

in the department of his major and the Graduate Council. A student under the thesis plan is expected to pass creditably two examinations, (a) a general examination on the subject matter of his major field, and (b) an oral examination on the thesis.

The *general examination*, which must be taken approximately one month before the oral examination on the thesis, may be written (two to four hours) or oral (one to two hours) as may be determined by the committee on graduate study in the department concerned. The chairman of the committee on graduate study or the major advisor shall arrange for and supervise this examination. The student makes application for the examination through his major advisor. The arrangements for the examination shall be completed through the Graduate College office. The details of the examination, including time and place, will be sent to the examiners and the student from the Graduate College office. If the examination is written, within one week after the examination, the instructor in charge shall file a copy of the examination questions and the student's examination papers in the office of the Graduate College, together with a report ("passed" or "failed") on the student's examination. If the general examination is oral, the personnel of the examining committee as arranged for by the chairman of the committee on graduate study or the major advisor shall include a member of the Graduate Council appointed by the Director of Graduate Studies. After the examination the instructor in charge shall file a report ("passed" or "failed") in the office of the Graduate College. A candidate who fails the general examination, whether written or oral, may retake the examination at the discretion of the committee on graduate study in the department concerned.

An *oral thesis examination* of one to two hours shall be given not later than one week before the degree is to be conferred. The examining committee shall be composed of the director of the thesis as chairman, one or more additional members from the major department, one member from the minor department (or departments), and a representative of the Graduate Council as appointed by the Director of Graduate Studies. Immediately after the examination, the chairman of the committee shall file a report of the examination with the Registrar and the office of the Graduate College.

The candidate prepares his thesis under the direction of his major advisor on a subject in the field of his major work. The thesis provides an opportunity for the student to formulate and express the results of his research and study. The thesis may vary in character from an extended essay representing critical reading, independent study, and the assimilation and interpretation of a considerable body of facts, to an account, sometimes more brief, describing a research project which makes some contribution to knowledge. With the approval of the Graduate Council, the thesis requirement may be met by the presentation of the results of creative activity, for example, in literature, music, fine arts, industrial arts, together with a written essay indicating the purpose, procedure, bibliography, and problems involved in the work. The format which gives directions for writing the thesis and abstract is obtained in the office of the Graduate College.

After the thesis and abstract are approved, and not later than five days before the degree is conferred, the candidate files two unbound copies of the thesis with the university librarian and one bound copy of the thesis with the office of the Graduate College. The two copies filed with the university librarian are bound and retained in the university library, and the copy filed with the Graduate College is presented to the school or department in which the work has been done.

The M.Ed. degree affords optional plans of study—(1) a thesis type of program, (2) a program excluding the thesis requirement. The student electing to follow the thesis program leading to the M.Ed. degree will comply with the requirements stipulated in the preceding paragraphs.

The program for the Master of Education degree excluding the thesis is designed especially for teachers, administrators, and others engaged in and preparing for educational work in the public schools. Though the program is available to any student who is preparing to teach one or more subjects included in the curriculum of the public schools, it will be of special interest to students in education, physical education, industrial arts, home economics, commerce, business education, and journalism. The nonthesis program is available under the same requirements as the thesis program except for the following provisions:

1. The student must be approved for the program by the committee on graduate study in his major department. This approval is given only if, after a review of the student's educational aims and interests, the program seems to fit his needs.
2. The student must be certified for teaching or administration, or be eligible for certification before the degree is conferred.
3. The student must apply for admission to candidacy at the close of the session in which he completes the first twelve hours of course work for application toward the degree.
4. The student's major or minor program must be in the area of education. If the professional work is taken in the minor, it must consist of not fewer than eight or nine hours. This professional work need not be taken in the College of Education, if the work is available elsewhere and better suits the student's needs.
5. The student must submit a scholarly paper on an educational or other approved subject either in connection with a regularly scheduled course or as a report on a field project. This paper must be graded as "satisfactory" by the student's instructor or major advisor and by a member of the committee on graduate study in the department. No credit in hours toward the degree is allowed for this paper, as such.
6. The student must pass a general comprehensive written examination of not less than two hours on the broad areas and background of his major field. The major department will advise the student how he should prepare for this examination and will provide the student with a reading list. This examination must be taken as directed by the major department and not later than four weeks before the date when the degree is conferred. In addition, the student

must pass the usual examination on major course work as required of candidates for other degrees. The minor course work will be considered in this examination or in connection with the general comprehensive examination referred to above.

7. The student who has already started on the thesis program may shift to the nonthesis program, provided the shift is approved by the committee on graduate study of his major department, and provided all the requirements of the nonthesis program are fulfilled.

COMMENCEMENT EXERCISES. The university graduation exercises are conducted to honor those who have achieved their degrees. The graduate student assumes an obligation to attend the commencement exercises. Academic costumes with the appropriate masters' hoods are worn by the candidates as a part of the ceremony. The candidates will make their own arrangements for procurement of the academic costume and hood through the campus agency provided for this service. Only in instances of proven necessity will degrees be granted in absentia. Petitions for granting the degree in absentia must be filed with the Director of Graduate Studies well in advance of the commencement exercises.

GRADUATE ASSISTANTSHIPS AND FELLOWSHIPS. A number of graduate assistantships, graduate fellowships, and research assistantships are available in the Graduate College of Ohio University. Persons receiving these appointments are selected on a basis of merit from students who have received the baccalaureate degree from approved institutions and who wish to pursue work leading to the master's degree.

A graduate or research assistantship carries a stipend of \$800 for the academic year of two semesters and waiver of the general registration fee and laboratory fees. The graduate assistant is required to give 18 hours of service weekly to the department of his major or minor field, and is permitted to carry 8 to 12 hours of graduate work, the hours in excess of 8 being subject to the approval of the Director of Graduate Studies and the chairman of the department in which the student is doing his major work.

After a graduate assistant has satisfactorily completed two semesters of service, a student with an exceptionally good record (10 hours with A grades) may, on the recommendation of his department, be appointed a graduate fellow. The stipend of a graduate fellow for the academic year of two semesters is \$850 and waiver of the general registration fee and laboratory fees. The service given to the University and the student load carried are the same as for graduate assistants.

Graduate assistantships and graduate fellowships are usually available to qualified students in the following fields: bacteriology, botany, chemistry, dramatic art and speech, education, English, fine arts, home economics (nursery school), human relations, journalism, management, mathematics, music, photography, physical education, physics, psychology, and zoology.

Application for a graduate assistantship or a graduate fellowship must be filed with the Director of Graduate Studies by March 1. Application blanks may be obtained from the office of the Graduate College.

Appointments are made about April 1.

SPECIAL APPOINTMENTS IN PERSONNEL WORK. Eight positions are open annually for graduate assistants in the office of the Dean of Women. These assistants pursue graduate work in human relations or personnel, with stipend and other terms similar to those of other graduate assistants. Applications should be filed with the Dean of Women not later than March 1.

SCHOLARSHIPS. University scholarships are available to graduates of any university who have maintained a high scholastic record. Information may be obtained by addressing the Chairman, Scholarships Committee, Ohio University, Athens, Ohio.

OUTLINE OF PROCEDURE FOR THE MASTER'S DEGREE

1. Secure admission to the Graduate College in advance of the opening of the session in which you wish to begin graduate work.
2. During the registration period confer with the Director of Graduate Studies relative to program of study and assignment of major and minor advisors.
3. In consultation with the advisors, proceed with registration for courses in the current semester. With advisors, prepare a program of study for the degree. This should be submitted on a form provided by the Graduate College office. It is to be filed with this office within a month after the program of study is begun.
4. Select a thesis topic during the latter part of the initial semester of study. This should be done in conference and consultation with the major advisor. The student graduating under the nonthesis option of the Master of Education degree will confer with his advisor concerning the scholarly paper.
5. File application for admission to candidacy. If not writing a thesis, application is filed within two weeks after the close of the session in which the first twelve hours for application toward the degree are completed. If writing a thesis, application is filed no later than two weeks after the opening of the semester (one week in the summer session) in which the candidate expects to receive the degree. Application may be filed after completing the first twelve hours for application toward the degree.
6. File application for graduation in the Registrar's office in accordance with the date given in the University Calendar.
7. Pay the graduation fee.
8. Pass the examinations as required under the plan chosen as prescribed on pages 21-23. The graduate student, whether thesis or non-thesis student, should make application through his major advisor at the proper time for his examination on the major course work. He should find out whether the examination is to be written or oral. If the examination is written, the committee on graduate study in the department concerned will arrange for the examination at the student's request. If the examination is oral, the student should consult the major advisor as to the personnel of the examining committee. For the oral examination on thesis, the student

should consult the director of the thesis for information on date and personnel of the examining committee. When arrangements as to date, place, and personnel for any examination have been made, the student must report the information to the office of the Graduate College. Notices of all examinations will be sent to the student and committee members by the Graduate College.

9. If following the thesis plan, file two copies of the thesis in the library after securing the signature of the Director of Graduate Studies and leaving one copy of the thesis and two copies of the abstract in the office of the Graduate College. Students under the nonthesis plan file the scholarly paper as directed.
10. If a thesis has been written, pay the fee for binding copies of the thesis and printing the abstract. If a recital has been given, pay the fee for the recordings and the printing of the program in the *Abstracts of Masters' Theses*.

THE COLLEGE OF APPLIED SCIENCE

The College of Applied Science includes two major schools: Home Economics and Engineering. Each school attempts to give the student a professional outlook. The Department of Industrial Arts is also a part of the College.

The School of Home Economics offers a broad and extensive program in home economics and related fields leading to the master's degree. Major work at the graduate level is offered in four fields—*foods and nutrition, clothing and textiles, child development and family life* including nursery school training, and *home economics education*. The graduate program is flexible and takes into account the individual's undergraduate training and professional goals. The graduate student in home economics will find a well-qualified staff together with excellent laboratory facilities. Recent improvements providing a more extensive program at the graduate level include a new foods laboratory with well-equipped unit kitchens, an experimental foods laboratory, a nutrition and textile chemistry laboratory, a workshop for home furnishings, and a laboratory for home economics education. The addition of metabolism apparatus, a launderometer, a fadeometer, and up-to-date food research equipment facilitates experimental and research problems in these areas. Other facilities include a nursery school and a home management house, both of which may be used for experimental purposes.

The Department of Industrial Arts provides a program of graduate training. The close association of industrial arts with the School of Engineering provides a unique combination of theoretical and practical work. The machine shops, hot and cold metal, and welding laboratories are adequately equipped for special work in these areas.

The School of Engineering has recently been accredited by the Engineers' Council for Professional Development in Architectural, Civil, Electrical, and Mechanical Engineering. In the fall of 1949, the first wing of a new engineering building was completed. This building houses

modern hydraulics and heat-power laboratories and two excellent electrical engineering laboratories which are devoted to electronics. The electrical-power laboratory, located in Science Hall, was recently re-furnished with new equipment. The Engineering Annex provides a well-equipped materials-testing laboratory, photogrammetric laboratory, soil mechanics laboratory, and the internal-combustion-engine laboratory.

It has been the policy of the School of Engineering to accept a few students well qualified for graduate work. A candidate for the master's degree in electrical, civil, or mechanical engineering is accepted only on evidence of a strong background in his field and on presentation of an integrated program for advanced study and research.

THE COLLEGE OF ARTS AND SCIENCES

The Graduate College, with the cooperation of the faculty in the various departments in the College of Arts and Sciences, offers graduate work leading to the Master of Arts or Master of Science degree. The departments are closely integrated within the College and with other departments and/or divisions in other colleges in the University so that a student may pursue a major in one department or division and a minor in another. Through such a program of interdepartmental cooperation the special interests of each individual graduate student can be served.

The student may pursue his graduate studies with a major or minor in one of the following departments: botany, chemistry, Classical languages, English, geography and geology, German, government, history, human relations, mathematics, philosophy, physics, psychology, Romance languages, sociology, or zoology. Most of the members of the faculty in the College of Arts and Sciences have, through work on special projects and other scholarly accomplishments of their own, demonstrated special interests in their respective fields which qualify them for teaching and direction of individual work at the graduate level. Special effort is made to encourage independent study and research of such quality as to prepare the student who attains the master's degree for work in industry, teaching, or to continue his studies and research at the doctoral level.

THE COLLEGE OF COMMERCE

In keeping with the economic, industrial, and business expansion of the nation, the College of Commerce offers opportunities for graduate students. Executives in business, communications, and industry are seeking college graduates who have master's degrees. The research and specialized study required in advanced work develop the initiative, self-reliance, and judgment needed in positions of greater leadership.

Graduate work is offered in all areas of the College of Commerce: accounting, advertising, agriculture, business law, economics, finance, journalism, management, marketing, secretarial studies, and statistics.

A graduate major is provided in journalism, economics, management, marketing-advertising, and agriculture. Graduate work in agriculture will be limited to advanced work in the general field or some specialization in the horticulture field. Through a combination of courses in secretarial studies and education, the department of secretarial studies provides for a graduate major in business education.

Graduate minors may be pursued in accounting, business law, finance, and statistics. In the department of statistics it will be possible to take advanced work in some of the applied fields such as quality control, business cycles, and forecasting.

Journalism has five areas or sequences available for graduate study: *news writing and editing, feature and pictorial journalism, radio journalism, public relations, and advertising-management.* The School of Journalism has its own complete laboratory facilities and also has access to the offices and equipment of the independently-owned daily, *The Athens Messenger.* United Press wire service, an AM and FM radio station, type laboratory, and engraving plant are a part of the university equipment available.

Graduate study in economics provides, through advanced work in economic theory, the essential background for work in business and government in the fields of economic and market analysis. Many who receive their master's degrees in economics elect to continue their graduate work at other institutions where the sound foundation they receive at Ohio University gives them the necessary background for successful study and research.

In management a growing demand in the fields of personnel and production management is being served by graduate training. The range of courses offered, coupled with research and laboratory facilities both on-campus and off-campus, assures a well-rounded core around which the student can develop and expand his abilities. The cooperation of several industrial establishments in the area makes possible research experience under actual industrial conditions.

THE COLLEGE OF EDUCATION

Graduate work in education is primarily for the purpose of providing advanced professional education to school administrators, supervisors and teachers. Among the types of positions for which Ohio University offers graduate instruction are:

School administration—the school superintendency

High school administration—the principalship

Elementary school administration—the principalship

School supervision—directors of instruction and curriculum

Secondary school teaching

Elementary school teaching

Guidance counseling and administration of guidance services

Recommended course programs for such specializations are outlined in this bulletin in the section devoted to the offerings of the College of Education.

In providing such instruction the University offers not only the appropriate courses but also practical field experience. This is done through the work of the Center for Educational Service, the facilities of the University Elementary School, and the field experiences provided in cooperation with various school systems.

A student majoring or minoring in education is assigned an advisor who is a specialist in the student's field of interest. With the assistance of this advisor the student plans a program suited to his needs and professional plans.

There are two plans for completing the requirements for the Master of Education degree. One of these requires the preparation of a thesis; the other requires a paper based on a field study or other applied study.

THE COLLEGE OF FINE ARTS

DRAMATIC ART AND SPEECH. The program of dramatic art and speech is centered in the new Speech and Theatre Building, equipped with modern facilities for the University Theatre, the University Speech and Hearing Clinic, the radio station—WOUI—AM and FM, and special rooms for the forensics program. Graduate students may participate in production, directing technical work, costuming, make-up, house-management or promotion of the presentations of the University Theatre. The productions of the University Playshop are directed and produced by graduate students under faculty supervision. The Ohio Valley Summer Theatre provides similar experiences for graduate students.

Graduate students in speech correction acquire first-hand experience in working with all types of defective speech in both the university clinic for students and the children's clinic. Mature students may be given some supervisory responsibility.

An extensive program of first-year debating and varsity intercollegiate debating for both men and women, together with intercollegiate contests in oratory and interpretation provides ample opportunities for graduate students in public address to gain practical experience in the direction of a forensics program.

RADIO. Ohio University operates a campus "carrier current" AM station providing programs of particular interest for the student body and a ten-watt educational FM station which serves the City of Athens and the surrounding territory. Most of the responsibility for the operation of the station and the preparation and production of its programs is in the hands of advanced students who work under close faculty supervision.

PAINTING AND ALLIED ARTS, PHOTOGRAPHY. Programs of study are provided to meet the needs and preparation desired by the graduate student. Fields of interest and training can be selected from art history, commercial design, decorative design, industrial design, painting, illustration, photography, sculpture and ceramics. As special offerings, several short courses are taught by nationally recognized artists. In the past few years visiting artists, associated with the summer program of

the department, have included John Carroll, Yaso Kunyshoi, Charles Burchfield, and Aaron Bohrod.

MUSIC. The School of Music offers degrees of Master of Fine Arts, Master of Education, and Master of Science. For the degree of Master of Fine Arts the major field may be in composition, music literature, or applied music (voice, piano, violin, cello, brass, woodwind, and percussion instruments). For the Master of Science degree, a joint program of training in music therapy and psychotherapy is offered. The Master of Education degree is granted to those majoring in music education.

THE DIVISION OF PHYSICAL EDUCATION AND ATHLETICS

Graduate study assists teachers to qualify for advancements and larger responsibilities in their chosen fields. Administrators, supervisors, college instructors and teachers in the larger secondary schools are generally selected from those who have had some experience and have extended their study beyond the bachelor's degree.

Students who want graduate study in physical education and the related subjects of health education and recreation may combine these interests into a major of 12 to 16 course hours and a thesis. One or two other areas will be associated with this major to complete 32 course hours including the thesis.

Associated areas or minors may be selected from any graduate course offerings in the University, with the understanding that a minimum of six or more hours of prerequisite study are usually required before graduate study is permitted.

The following minors are commonly selected: educational administration, history, social science, biological science, psychology, or industrial arts. The student, however, is in no way limited to these areas.

If the student has had an extensive and thorough undergraduate major in physical education it may be best to take a minimum of 12 hours in the graduate major plus a thesis and reserve about 16 hours for one or two minors.

The candidate must have had, or be willing to complete as a prerequisite to graduate study, the equivalent of the Ohio certified teaching minor of 24 credit hours, distributed in health education, program skills, athletic coaching, principles, organization, and administration of physical education, human anatomy and physiology.

THE SUMMER SCHOOL

The Ohio University Summer School is a regular part of the academic program, and course offerings represent a cross section of the total program of the University in all of its divisions. In many areas there are increased course offerings on the graduate level.

The summer program affords many graduate students, particularly teachers and school administrators, an opportunity to engage in advanced study. An increasing number of graduate students, beginning their work in the regular sessions, consider it desirable to maintain the continuity of their program of graduate studies and have found the summer facilities of the laboratories and the library most conducive for research.

The Summer School consists of two sessions; an eight-week session and a post-session of three or more weeks. Little, if any, work on the graduate level will be listed for the latter period. Students may register for a conference course or thesis, with the approval of the instructor, to begin on the same date as the three-week session and continuing for three, four, five, or six weeks, depending on needs of the student and availability of the instructor.

Each year the Summer School provides a number of special features of interest to special groups. Among those planned for the summer of 1952 are the following:

- Music Clinic-Workshop
- High School Publications Workshop
- Conference on Elementary Education
- Conference on Education Administration
- Conference on World Affairs
- School Textbook Exhibit
- Special Classes in Painting
- Workshop in Photography
- Workshop in High School Radio, Discussion, and Debate
- Summer Theatre
- Workshop in Elementary School Music
- Workshop in Industrial Arts Education
- Workshops in Home Economics
- Workshop on Economic Education
- Travel-Study Workshop in France

The regular faculty is supplemented by visiting professors and lecturers who greatly enhance the diversity of subject matter and training on the graduate level.

A special bulletin covering the offerings of the Summer School is available and may be secured by sending a request to the Director of the Summer School, Ohio University, Athens, Ohio.

TRAVEL-STUDY PROGRAM IN FRANCE

Students and teachers of French who are interested in combining a program of graduate study with travel in France during the summer are invited to communicate with the Chairman of the Department of

Romance Languages or the Dean of the College of Education for further details.

In brief, the program consists of a period of from three to four days spent on the campus followed by five weeks in and about Paris with the time divided between class work and educational and recreational activities. The dates of the program coincide fairly well with those of the regular summer session.

Up to eight hours of graduate credit may be earned in French, Education or in a combination of the two. Those who wish to register as auditors may do so, but will pay the same fee as those registered for credit.

The group will be under the guidance of one of the regular staff members, and instruction in France will be given by native French teachers. There will, of course, be ample opportunity for the use of practical, oral French.

THE CENTER FOR EDUCATIONAL SERVICE

The Center for Educational Service is designed to make available the resources of the College of Education and of the University to educational workers—teachers, administrators and supervisors. These resources are also available to boards of education and to the public in communities served by Ohio University.

The Center's chief functions are: (1) To provide consultant services in such areas as curriculum planning, use of community resources, audio-visual education, guidance programs, school-community relations, and supervisory and administrative problems. Such consultant services may involve one or several staff members and may be a single meeting or a series of conferences and meetings. (2) To conduct school surveys of educational programs and curricula, school building and site needs, and organization of school districts. (3) To assist in solution of professional problems through off-campus and on-campus workshops. (4) To promote conferences on vital problems confronting public education. (5) To publish those studies and reports which will aid in solving educational problems and to distribute such publications. (6) To encourage cooperative attack by teachers, administrators, boards of education, and the public toward solution of educational needs.

The Center for Educational Service has its headquarters in the Edwin Watts Chubb Library. Here a collection of materials from public school systems and universities from all parts of the United States forms a curriculum and administrative materials laboratory. These materials are available to students and staff members for on-campus courses and to workshop study groups for resource material; selected items may be loaned to teachers and administrators for committee work in their own school systems.

The resources of the Center for Educational Service and the projects which it conducts offer opportunities for graduate students in the use of these practical materials and in participation in field studies of realistic school problems.

COURSES OF INSTRUCTION

EXPLANATION

CATALOG NUMBER. The catalog number indicates the student classification for which the course is intended.

300-399 for advanced undergraduates and graduates

400-499 for graduates

In general, an odd number indicates the first semester of a two-semester course; an even number, the second semester.

Two numbers at the beginning of a course indicate a two-semester or year course. A *hyphen* between the numbers indicates that the course is a continuous course; that is, the first semester course is a prerequisite for the second semester. A *comma* between the numbers indicates that although the course is a two-semester course, the first semester course is not a prerequisite for the second semester.

CREDIT. All credit is designated in semester hours. A semester hour is the equivalent of one recitation or two or more laboratory periods a week throughout a semester. The normal load for an eight-week summer term is just half of that for a semester, while the number of recitations and laboratory periods is approximately double that of a semester. The credit hours applicable to any given course taken in an eight-week summer term are therefore the same as for a full semester (16 weeks).

Credit for a course is indicated by the number or numbers in parentheses following the course title, and, in case of a year course, is shown for each semester. In a semester course it may be expressed thus: (3), (1 to 3), or (2 or 3); in a year course, (3-3), (3, 3), (1 to 3—1 to 3), or (2 or 3—2 or 3).

A course with one semester hour of credit (1) is the equivalent of one recitation or two or more laboratory periods a week throughout a semester.

In a course carrying variable credit the credit may be expressed thus, (1 to 4), usually indicating that one hour is the minimum and four hours the maximum amount of credit allowed for the course. In those instances where a student may enroll for a course with a variable credit a number of times, the maximum credit available will be indicated in the course description.

Course prerequisites, in addition to the specific minimum requirements stated at the beginning of each subject matter field, are indicated at the end of course descriptions following the abbreviation, "Prereq."

FEE. When a course requires a fee, the amount is stated in the description of the course.

CLASS SCHEDULE. A Schedule of Classes is published for each session showing the courses that are offered, the time of meetings, the room numbers, and the instructors.

ACCOUNTING

Professors Ray (chairman), Beckert
Associate Professor Fenzel
Assistant Professor Reininga

In order to begin a graduate major or minor in accounting, a student should present 15 hours of undergraduate accounting, including Intermediate and Cost Accounting with at least a B grade in each.

355. INDUSTRIAL AUDITING AND INTERNAL CONTROL (3) Beckert

Study of types of internal audits, audit reports, fraud and an appraisal of the standards of internal auditing as a profession. Basic and internal controls are studied in their relation to the auditor's program.

356. AUDITING PRINCIPLES AND PRACTICE (3) Beckett

Purposes and scope of audits and examinations; audit principles and procedure; application of audit principles to practice material based on actual audit; and audit reports and certificates.

378. C.P.A. PROBLEMS (3) Reininga

The accounting profession; C. P. A. coaching; analysis, interpretation, and solution of state board problems. Prereq., 206—Advanced Accounting, and 355.

379. CONTROLLERSHIP (3) Reininga

Study of functions of Controller including general accounting, internal control, budgeting, taxes, cost control, and financial reporting. Coordinated interpretation and policy making by and for directors and management. Prereq., 21 hrs.

381. RESEARCH IN ACCOUNTING (2 to 8) The Staff

Prereq., 206—Advanced Accounting, 224—Standard Costs and Budgets, and permission.

391. SEMINAR IN ACCOUNTING (2 to 4) The Staff

Maximum credit in course, 10 hrs. Prereq., 15 hrs. and permission.

495. THESIS (1 to 6) The Staff

Prereq., permission.

ADVERTISING

Professor Krauskopf (chairman)

Assistant Professor Turnbull

In order to begin a graduate major or minor in advertising, the student will be expected to have Principles of Economics, 6 hours; Advertising Principles, 3 hours; with enough additional work in economics and/or commerce, or approved equivalent work, to bring the total to 18 hours.

332. COPY WRITING (2) Turnbull

The elementary essentials of copy developed by the study of current theory and analysis of tested examples. Considerable constructive work is required.

376. ADVERTISING PROBLEMS (3) Krauskopf

Emphasizes administrative problems and the coordination of advertising with other marketing activities.

381. RESEARCH IN ADVERTISING (2 to 8) The Staff

Prereq., 18 hrs. commerce including 5 hrs. advertising, and permission.

391. SEMINAR IN ADVERTISING (2 to 4) The Staff

Maximum credit in course, 10 hrs. Prereq., 18 hrs. commerce including 5 hrs. advertising, and permission.

495. THESIS (1 to 6) The Staff

Prereq., permission.

Additional courses: Jour. 327—Public Relations Techniques, Jour. 328—Public Relations, Jour. 348—Advertising Production, Radio 309—Radio—TV Advertising and Management.

AGRICULTURE

Instructors DeVeau (acting chairman), Rose
Acting Instructor and Farm Superintendent Stright

To begin a graduate major in agriculture the student will be expected to have a minimum of 18 hours in agriculture or approved equivalents.

To begin a graduate minor in agriculture the student will be expected to have a minimum of 9 hours in agriculture or approved equivalents.

322. AGRICULTURAL PROBLEMS (2 to 5 a semester in any of the following)

Designed to train the student in some important advanced phase of agriculture. Geared to meet individual problems with emphasis on individual study with systematic instruction. Maximum credit in course, 12 hrs. Prereq., 15 hrs. and permission.

- a. *Advanced Animal Breeding*—A study of the various systems of breeding and breeding programs. Examination of animal breeding statistics. Practical experience with artificial insemination programs. DeVeau.
- b. *Advanced Floriculture*—A study of specific greenhouse plants including practical experience in cultural methods and floral designing. Rose.
- c. *Agricultural Organizations*—An examination of the various agencies related to agriculture: government, state, co-operative, and private business enterprises. DeVeau.
- d. *Animal Diseases*—A study of animal and poultry diseases, their symptoms, prevention, diagnosis, treatment and control, DeVeau, Stright.
- e. *Dairy Production*—Specific study of dairy husbandry with emphasis on breeding and management. DeVeau, Stright.
- f. *Farm Buildings and Equipment*—A study of farm buildings and equipment. Practice in planning a farm building. Practice in constructing a farm structure. DeVeau, Stright.
- g. *Pomology*—A study of fruit production; disease, spraying systems and storage. Rose.
- h. *Poultry Production*—A study of the technical phases of poultry raising, accompanied with specific problems in poultry management. DeVeau, Stright.
- i. *Plant Propagation*—The assignment of a special problem pertaining to the propagation of ornamental plants. Rose.
- j. *Soil Analysis*—The study of soil composition. Rose.

381. RESEARCH IN AGRICULTURE (2 to 5) The Staff
Prereq., permission. Maximum credit in course, 10 hrs.495. THESIS (1 to 6) The Staff
Prereq., permission.

ARCHAEOLOGY AND ANTIQUITIES

Professor V. D. Hill

To begin a graduate minor in archaeology and antiquities, a student shall present undergraduate work in both of the following groups, and shall have completed the stipulated minimum amount of work in one group:

1. Foreign language—11 hours.
2. History (or art history) and antiquities—8 hours.

340. SPECIAL WORK IN ARCHAEOLOGY (2 to 4 a semester in any field)

V. D. Hill

Special study in selected phases and types of archaeology, such as the Biblical, early eastern, classical, and the more prominent cultures of Central and South America. Maximum credit in course, 12 hrs. Prereq., 252—Archaeology of the Mediterranean Area.

Additional courses (fuller descriptions under appropriate departments):

*Art Hist. 371—Latin-American Art.** From the Pre-Columbian period to the present. Term paper may be specifically archaeological.

Ed. 350—The History of Education. Including ancient, classical, and medieval.

*Geol. 340-341—Paleontology.** Invertebrate fossils, including larger forms of ancient animal life.

Gk. 301—Greek Drama in English.

*Lat. 329—Development of Roman Culture.** Beginning with the archaeological evidence. (For Latin courses see Classical Languages.)

*Lat. 331—The Life of the Romans.** Including evidence from archaeology and antiquities.

Phil. 301—History of Ideas: Ancient and Medieval.

ARCHITECTURE

Associate Professor Denison

301. WORKSHOP IN ARCHITECTURE

(1 to 3) Denison

Supervised individual projects. Maximum credit in course, 12 hrs.

ART

Professors Mitchell (director), Way

Visiting Professor Frost

Associate Professors Willis, Work

Assistant Professor Smith

Instructors Olpp, Hostetler

Visiting Lecturer Mutchler

To begin a graduate major or minor in the School of Painting and Allied Arts, a student must present at least twelve hours of undergraduate credit in the field of the major or the minor.

ART HISTORY**303. ITALIAN RENAISSANCE PAINTING**

(3) Olpp

The development of painting in Italy during the Renaissance from the early Florentine and Sienese schools through the fifteenth and sixteenth centuries in central and northern Italy. Prereq., F.A. 121-122—History of Painting and Sculpture.

371. LATIN-AMERICAN ART

(3) Olpp

Architecture, sculpture, and painting of the Hispanic Southwest, Mexico, Central America, the Caribbean area, and South America from Pre-Columbian times to the present. Prereq., F.A. 121-122—History of Painting and Sculpture, and 175-176—History of Architecture.

*This and other courses starred are more specifically archaeological.

375. ARCHITECTURE IN THE UNITED STATES (2) Frost

Development of architecture as a continuing reflection of civilization from the time European groups were first transplanted to this continent as colonists to the present day. Prereq., F.A. 175-176—History of Architecture.

490. SEMINAR IN HISTORY OF THE SPACE ARTS (2 to 3) Olpp

Maximum credit in course, 10 hrs. Prereq., 18 hrs. including F.A. 121-122—History of Painting and Sculpture.

DESIGN

301. WORKSHOP IN DESIGN (1 to 3) The Staff

Students assigned projects for practical experience. Maximum credit in course, 9 hrs. 3-9 lab. Prereq., permission.

313. ADVANCED INTERIOR DESIGN (3) Way

Perspective drawings rendered in color. Research stressed and original adaptations made from styles of important periods. Maximum credit in course, 12 hrs. 2 lec., 4 lab. Prereq., 271-272—Interior Design, Arch. 55—Fundamentals of Architecture, and permission.

317-318. ADVANCED ADVERTISING DESIGN (3-3) Smith

Comprehensive problems in magazine, newspaper, direct mail, and display layout. 6 lab. Prereq., 107—Advanced Design; 113—Lettering; 147-148—Advertising Design; Paint. 45-46—Basic Representation; Paint. 75—Representation; Advt. 155—Advertising Principles.

321. ADVANCED COSTUME DESIGN AND ILLUSTRATION (2) Way

Application of art principles to magazine illustration of dress design. Details of costume. Page layout, trousseaux. Maximum credit in course, 10 hrs. 1 lec., 3 lab. Prereq., 11-12—Basic Design; 137—Costume Design; Paint. 28—Figure Drawing.

325. ADVANCED JEWELRY (2) Willis

Maximum credit in course, 6 hrs. 1 lec., 3 lab. Prereq., 11-12—Basic Design, or 91—Design and Composition and 102—Applied Design; 123—Jewelry. Fee, \$2.

351-352. INDUSTRIAL DESIGN (2-2) Smith

Design and presentation of industrial products with emphasis on function, appearance, and material. Presentation sketches, detail drawings, scaled models. 4 lab. Prereq., Paint. 28—Figure Drawing; Sculp. 231—Sculpture.

381. RESEARCH IN DESIGN (1 to 5) The Staff

Maximum credit in course, 10 hrs. 3-15 lab. Prereq., 15 hrs. and permission.

491. SEMINAR IN DESIGN (1 to 5) The Staff

Maximum credit in course, 10 hrs. Prereq., 18 hrs. and permission.

495. THESIS (1 to 6) The Staff

Prereq., permission.

PAINTING AND DRAWING

315. ADVANCED FORM AND COMPOSITION (2) Willis

Advanced problems in modern composition. Maximum credit in course, 4 hrs. 4 lab. Prereq., 12 hrs. including 45—Basic Representation, and 117—Form and Composition; Design 11-12—Basic Design; permission.

328. LIFE DRAWING (3) Mutchler

Application of techniques toward representation of the human figure. Maximum credit in course, 12 hrs. Prereq., 4 hrs. of 28—Figure Drawing, 128—Advanced Figure Drawing, or permission.

341. ADVANCED PAINTING (2 or 3) Mitchell, Mutchler
Way, Willis, Work

Practical problems involving advanced techniques. Maximum credit in course, 12 hrs. 6-9 lab. Prereq., 205—Painting.

431. ADVANCED PICTORIAL COMPOSITION (3) The Staff

Maximum credit in course, 12 hrs. 9 lab. Prereq., 20 hrs. and permission.

436. DECORATIVE COMPOSITION (3) The Staff

Maximum credit in course, 12 hrs. 9 lab. Prereq., 20 hrs. and permission.

491. SEMINAR IN PAINTING (1 to 5) The Staff

Maximum credit in course, 10 hrs. Prereq., 20 hrs. and permission.

495. THESIS (1 to 6) The Staff

Prereq., permission.

SCULPTURE AND CERAMICS**301. WORKSHOP IN PLASTIC DESIGN** (2 or 3) Hostettler

Supervised individual projects. Maximum credit in course, 12 hrs. Prereq., permission. Fee, \$5.

316. ADVANCED CERAMICS (3) Hostettler

Advanced pottery production methods such as jiggering, block and case casting. Construction of potter's wheel, ball mill, and electric kilns. Advanced glaze and clay testing techniques. Maximum credit in course, 12 hrs. 6 lab. Prereq., 115-116—Ceramics, and permission. Fee, \$5.

327. ENAMELING (2) Hostettler

Design and construction of metallic objects toward ceramic application of enamels. 1 lec., 3 lab. Prereq., 115—Ceramics; Design 11-12—Basic Design, or Design 91—Design and Composition and Design 102—Applied Design; Design 123—Jewelry. Fee, \$4.

495. THESIS (1 to 6) The Staff

Prereq., permission.

ASTRONOMY

Associate Professor Goedicke

350. STUDIES IN ASTRONOMY (1 to 4) Goedicke

Selected topics in astronomy will be studied. Prereq., 11, 12—Elementary Astronomy, and permission.

BOTANY

Associate Professor Bickle (chairman)
Assistant Professors Vermillion, Wallace

To begin a graduate major in botany the student should have a minimum of 24 hours in botanical courses in the following fields of preparation: morphology, 4 to 8 hours; physiology, 4 to 8 hours; taxonomy, 3 to 6 hours; or approved equivalents.

To begin a graduate minor in botany the student should include, in addition to 6 hours of combined botany-biology courses or 6 hours of

botany, the following: morphology, 4 hours; physiology, 4 hours; taxonomy, 3 hours; or approved equivalents.

310. PLANT BREEDING AND GENETICS (3) Wallace

A course dealing with new experimental and analytical methods of studying the evolution of plants. 2 lec., 2 lab. Prereq., 205—Plant Physiology, 207—Morphology of the Bryophytes and Pteridophytes, and Seed Plants. Fee, \$4.

318. WOOD TECHNOLOGY (3) Blicke

The structure, identification, properties and uses of North American woods, with special attention given to the microscopic structure. 1 lec., 3 lab. Prereq., 117—Dendrology, or 172—Plant Anatomy. Fee, \$4.

320. BOTANICAL STUDIES (2 or 4 a semester in any of the following)

Semi-independent studies supervised by the instructor. May include inter-departmental studies under the combined supervision of instructors from botany and other departments. Maximum credit in course, 16 hrs., Prereq., 9 hrs., or 6 hrs. and 6 hrs in chemistry, geology, or zoology. Fee, \$3.

- a. *Morphology*—Studies of the fundamental plant form, structure, life cycles, and reproduction. Blicke, Vermillion.
- b. *Physiological Botany*—Studies of the primary functions, processes, and growth phenomena of plants. Wallace.
- c. *Ecological Botany*—studies of the interrelations of plants to one another and to the environment. Blicke.
- d. *Taxonomy*—studies in the principles, theories, and systems of plant classification and the phylogenetic relations of plants. Blicke.
- e. *Plant Anatomy and Cytology*—studies in the internal histology and cytology of plant organs, tissues, and cells. Blicke.
- f. *Pathology*—studies in the nature, prevention, cause and control of plant diseases. Vermillion.
- g. *Economic Botany*—origin, uses, and economic importance of plants and plant products. Vermillion.
- h. *Plant Breeding and Genetics*—studies of the mechanism of heredity in plants, genes, and how they produce plant body characteristics. Wallace.
- i. *Dendrology and Wood Technology*—studies embracing the structure, identification, properties and uses of North American trees and woods, their occurrence and distribution. Blicke.
- j. *Paleobotany*—studies dealing with the fossil representatives of the greater plant groups, their importance and sequence through-out geological time. Blicke.

324. FOREST PATHOLOGY (3) Vermillion

Principles and methods involved in the prevention and control of damage to forest by disease. 2 lec., 2 lab. Prereq., 117—Dendrology, or 3-4—General Botany, and Agr. 3—Forestry. Fee, \$5.

381. RESEARCH PROBLEMS (1 to 4) The Staff

Independent problems of a research and semi-research nature in any of the several fields listed under 320. Maximum credit in course, 8 hrs. Prereq., permission.

485. RESEARCH IN BOTANY (2 to 6) The Staff

Research work leading to the fulfillment of thesis requirements. The work may be carried in any of the several fields listed under 320. Maximum credit in course, 6 hrs. Prereq., 20 hrs. and permission. Fee, \$3.

491. SEMINAR IN BOTANY (1 to 4) The Staff

Advanced study and original semi-research work. Prereq., permission.

BUSINESS EDUCATION

Associate Professor Sponseller (chairman)
 Assistant Professors Dalton, Via, Appel
 Instructor Weaver

Those interested in a major in business education should ordinarily enroll in the nonthesis program for the Master of Education degree. In addition to his having met the entrance requirements for the nonthesis program, the student planning to major in business education should have completed at least 28 hours or the equivalent in commerce and secretarial subjects.

The student planning to minor in business education should have completed 20 hours or the equivalent in commerce and secretarial subjects.

335. COMMERCIAL CURRICULUM CONSTRUCTION (2) Appel

Principles and factors necessary in the construction of a curriculum of commercial courses in the high schools of varied communities.

387. RESEARCH IN BUSINESS TEACHING PROBLEMS (2 to 8) The Staff
Prereq., permission.**391. SEMINAR IN BUSINESS TEACHING PROBLEMS (2 to 4) The Staff**
Maximum credit in course, 10 hrs. Prereq., permission.**437. ADMINISTRATION IN BUSINESS EDUCATION (3 to 6) Sponseller**
Problems involved in planning, administering and supervising a business education program in the high school. Prereq., permission.**495. THESIS (1 to 6) The Staff**
Prereq., permission.

Other courses to make up the total hours required for a major or minor may be selected, according to the student's interest and background and on the advice of the counselor, from the graduate offerings in commerce and education.

BUSINESS LAW

Assistant Professor R. L. Patrick (chairman)

342. LAW OF REAL ESTATE (2) The Staff
Deeds, mortgages, leases, and other interests in real property, and the relationships between landlord and tenant. Prereq., 255-256—Business Law.**381. RESEARCH IN LAW (2 to 8) The Staff**
A study of selected cases and current litigation in any field of law of particular interest to the student. Prereq., 18 hrs. commerce, including 255-256—Business Law, and permission.**CERAMICS—See Art****CHEMISTRY**

Professors Dunlap, Clippinger, Eblin (chairman)
 Assistant Professors Day, Huntsman, Tate

To begin a graduate major in chemistry the student must have completed the equivalent of subject matter in chemistry required for the A.B. degree at Ohio University, including Physical Chemistry. A year of college physics and mathematics through Integral Calculus are also required.

To begin a graduate minor in chemistry the student usually will have completed 17 hours of chemistry, including 5 hours of Organic Chemistry.

305. ADVANCED QUANTITATIVE ANALYSIS (3) Clippinger

Methods of instrumental analysis. Colorimetry, spectrophotometry, electrometry, and polarography. Prereq., 110—Quantitative Analysis, and permission. Fee, \$12.

313-314. PHYSICAL CHEMISTRY (3-3) Eblin

Not open to graduate students majoring in chemistry. Prereq., 201—Organic Chemistry, or with 201, Math. 102—Integral Calculus, and Phys. 6—Introduction to Physics, or Phys. 114—General Physics.

315, 316. PHYSICAL CHEMISTRY LABORATORY (3,3) Eblin

6 lab. Prereq., 313 or with 313. Fee, \$12 a semester.

317, 318. ADVANCED PHYSICAL CHEMISTRY (2 or 3, 2 or 3) Day

First semester—The fundamental particles and their arrangement in the atom in the light of the experimental evidence; quantum theory, atomic and molecular spectra; and the relation between molecular structure and physical properties.

Second semester—Chemical Kinetics. The kinetics of homogeneous and heterogeneous reactions; reactions in solution; catalysis; photo-activated reactions; the Eyring theory of absolute reaction rates. Maximum credit in course, 6 hrs. Prereq., 314.

321. QUALITATIVE ORGANIC ANALYSIS (4) Dunlap

The separation and identification of organic compounds. Preliminary to research in organic chemistry. 2 lec., 6 lab. Prereq., 204—Organic Chemistry Laboratory. Fee, \$12.

324. METALLOGRAPHY (3) Clippinger

A study of metallic structure, heat treating, polishing, microscopic examination, and photographing of steels and other alloys. Prereq., with 313. Fee, \$12.

325. ELECTROCHEMISTRY (2) Clippinger

The fundamentals of electrolysis, the phenomena of electrolytic dissociation, conductance, transference, electrokinetics, polarization, and depolarization. Practical applications of electrolytic reduction and oxidation. Prereq., 313 or with 313.

328. COLLOID CHEMISTRY (3) Eblin

The chemistry of small particles, large molecules, and methods of determining their sizes and shapes. Applications to industrial and physiological types of colloidal behavior. Open to zoology majors desiring some background in bio-physical chemistry. Prereq., 16 hrs. Offered second semester.

329-330. PRINCIPLES OF UNIT OPERATIONS (3-3) Dunlap

A study of the fundamental principles of unit operations with problems to illustrate the principles. Prereq., 314 or senior rank in mechanical engineering.

331-332. UNIT OPERATIONS LABORATORY (2-2) Dunlap

Unit processing and laboratory practice in heat transfer, filtration, distillation, etc. Prereq., 329 or with 329. Fee, \$12 a semester.

333. ADVANCED INORGANIC CHEMISTRY (3) Huntsman

A systematic study of the families of elements and their compounds with an introduction to modern theories of atomic and molecular structure. Prereq., 313 or with 313.

335. INORGANIC PREPARATIONS

(2) Huntsman

A fundamental course in the principles and practice of preparing and testing pure inorganic compounds. 6 lab. Prereq., 110—Quantitative Analysis. Fee, \$12.

343. ADVANCED ORGANIC CHEMISTRY

(1 to 3) Day, Dunlap, Tate

Special topics in organic chemistry. Maximum credit in course, 9 hrs.

a. *Alicyclic and Heterocyclic Compounds.*

This is a study of the basic chemistry of these compounds, including the more recent developments in their field. Prereq., 202—Organic Chemistry and 204—Organic Chemistry Laboratory.

b. *Current Concepts in Organic Chemistry.*

This course is an effort to rationalize and, therefore, organize the reactions of organic chemistry through an introduction to the relationships between molecular structure and molecular reactivity. Frequent reference to the current literature. Prereq., 314.

c. *High Polymers (Plastics).*

Chemistry and properties of plastics, testing and molding methods, uses. Samples, photographs, and current literature supplement the textbook and lectures. Prereq., 202—Organic Chemistry.

351. SPECIAL PROBLEMS IN CHEMISTRY

(2 or 3) The Staff

Minor research and the development of the investigative procedures in the various branches of chemistry. Laboratory and library work. Maximum credit in course, 12 hrs. Prereq., 24 hrs. with a B average in chemistry. Fee, \$15.

451, 452. SEMINAR

(1,1) The Staff

Topics to be announced in advance of the semester. Required of all graduate students in chemistry. Prereq., 314.

481. RESEARCH IN CHEMISTRY

(2 to 4) The Staff

Maximum credit in course, 12 hrs. Prereq., 36 hrs. Fee, \$15.

495. THESIS

(1 to 4) The Staff

Prereq., permission.

CIVIL ENGINEERING—See Engineering

CLASSICAL LANGUAGES

Professor V. D. Hill

Associate Professor Murphy (chairman)

As a foundation for a graduate major in Latin, a student shall have completed 20 hours of undergraduate work in Latin above the level of two years of high school Latin.

The prerequisite for a graduate minor shall be 12 hours of Latin above the two high school units.

In the cases of students with excellent undergraduate records who do not meet the requirements as to amount of undergraduate training in Latin, experience in teaching Latin may be accepted in lieu of a portion of the required undergraduate work.

A student who has a background of 12 hours of Greek or the equivalent may be accepted as a candidate for a graduate minor in Greek. A major program is not offered in Greek.

GREEK

301. GREEK DRAMA IN ENGLISH* (2) Murphy
The evolution of the theater. Class discussion of the great Greek tragedies as well as some comedies of Aristophanes and Menander. Prereq., 12 hrs. English, or 6 hrs. English and 6 hrs. foreign language or dramatic art.
309. GREEK LYRIC POETS (1 to 3) Hill
Theocritus, Pindar, and Sappho. Prereq., 14 hrs.
310. GREEK ORATORS (2) Hill
Readings chiefly from Lysias and Demosthenes. Prereq., 14 hrs.

LATIN

311. CICERO (LETTERS) AND CATULLUS (POEMS) (1 to 3) Murphy
Prereq., 203—Pliny's Letters.
312. LATIN DRAMATISTS (1 to 3) Murphy
Comedies of Plautus and Terence and tragedies of Seneca. The relation of Roman to Greek drama. Prereq., 203—Pliny's Letters.
317. VERGIL—LATIN EPIC (Summer session only) (3) Hill
Lectures on the general literary content and techniques of the *Aeneid*, with translations from the last six books. Prereq., 203—Pliny's Letters.
318. READINGS IN LATIN LITERATURE (1 to 4) Hill, Murphy
Selections from a wide range of Latin literature according to the needs and interests of students. Maximum credit in course, 10 hrs. Prereq., 203—Pliny's Letters, or equivalent.
319. ROMAN SATIRE: HORACE AND JUVENAL (3) Murphy
Prereq., 203—Pliny's Letters, or equivalent.
320. TACITUS AND MEDIEVAL LATIN (1 to 3) Murphy
Prereq., 203—Pliny's Letters, or equivalent.
321. SUETONIUS: JULIUS CAESAR AND AUGUSTUS (3) Hill
Prereq., 203—Pliny's Letters, or equivalent.
324. PETRONIUS: CENA TRIMALCHIONIS (2) Murphy
Prereq., 203—Pliny's Letters, or equivalent.
326. MARTIAL: EPIGRAMS (1) Murphy
Prereq., 203—Pliny's Letters, or equivalent.
327. ROMAN HISTORY IN THE CLASSICAL PERIOD**
(Summer session only) (1) Murphy
The historical background of classical Latin literature. Prereq., 6 hrs., or 6 hrs. history and antiquities.
328. ROMAN RELIGION AND MYTHOLOGY**
Prereq., 8 hrs., or 8 hrs. history and antiquities, or 8 hrs. English.
329. DEVELOPMENT OF ROMAN CULTURE**
Beginning with the archaeological evidence of civilization in Italy, the course traces the various stages in the growth of Roman culture. Prereq., 8 hrs., or 8 hrs. history and antiquities.

*No knowledge of Greek required.

**No knowledge of Latin required.

331. THE LIFE OF THE ROMANS*

(2) Hill

The social customs of the Romans: the family, the house, transportation, public amusements, and related features. Illustrations from the archaeological evidence. Prereq., 8 hrs., or 8 hrs. history and antiquities.

332. HISTORY OF LANGUAGE*

(2) Murphy

How language began, developed, and functions in society; history of writing; modern English: its Latin, Romance, and Germanic backgrounds. Prereq., 8 hrs. foreign language or 12 hrs. English.

333. ADVANCED LATIN SYNTAX

(1 to 3) Murphy

Prereq., 203—Pliny's Letters.

340. SPECIAL WORK IN LATIN

(1 to 4) The Staff

Individual work under careful guidance. Maximum credit in course, 8 hrs. Prereq., 203—Pliny's Letters.

411. OVID'S FASTI

(3) Hill

Selected books of the *Fasti* are read for content and for the light they throw on early Roman religion. Elementary principles of text criticism. Prereq., 203—Pliny's Letters, and permission.

491. LATIN OF THE TRANSITION PERIOD (SEMINAR)

(3) Hill

Prereq., 203—Pliny's Letters, and permission.

495. THESIS

(1 to 6) The Staff

A thesis may be offered in Latin or in classical languages. Prereq., permission.

DESIGN—See Art

DRAMATIC ART AND SPEECH

Professors Staats,

Kantner (director), Seigfred

Associate Professors Andersch, Jukes, LaFollette

Assistant Professors Lane, Turnbull

Instructors Hahne, Logan

Acting Instructor Ludlum

Prospective graduate students in dramatic art and speech should present a minimum of 18 hours of undergraduate work, including basic speech courses and courses in public address, speech correction, theatre, and radio. Those accepted with less than the minimum will be required to make up the deficiency through further work at the undergraduate level or additional graduate courses, depending upon the needs of the individual student. A student who wishes to concentrate his graduate work in a given area, such as radio or speech correction, will be expected to make up undergraduate deficiencies in his special field, even though he may present the minimum of 18 hours of undergraduate work in others phases of speech.

In order to qualify as a graduate minor in a given area of dramatic art and speech, a student will be expected to have met the prerequisites to the 300 level courses which he plans to take in the respective areas.

*No knowledge of Latin required.

DRAMATIC ART

300. ADVANCED ACTING

(3) Lane

Creation of roles in plays of different types, styles, and periods, stressing more difficult characterizations. Study of dialects. Laboratory experience in rehearsal and performance. 1 lec., 4 lab. Prereq., 101—Movement and Pantomime, 299—Principles of Acting, Speech 34—Oral Interpretation of Literature, and permission.

306. ADVANCED STAGECRAFT

(3) The Staff

Theories and problems involved in scenic decor. The results of experimentation with paint and structure on the model set are applied to full-scale scenery. 1 lec., 4 lab. Prereq., 12 hrs. including 21—Elements of Stage Scenery, and 222—Scene Design and Painting; Paint. 45—Basic Representation.

321, 322. DRAMATIC COMPOSITION

(3, 3) The Staff

Theory of playwriting. Practical experience in the writing and re-writing of plays. Scripts of sufficient merit are produced under the writer's supervision by the University Playshop. Prereq., 6 hrs. and 12 hrs. English and/or journalism.

350-351. PLAY DIRECTION

(3-3) Lane

Preparation of plays for public performance; analysis of the script, methods of casting and rehearsal. Capable students direct one-act plays presented by the University Playshop. 1 lec., 4 lab. Prereq., 12 hrs. including 300, and permission.

353. MASTERS OF THE THEATRE

(3) Lane

Techniques for the production of historical plays. Preparation of director's manuscript and actual supervision of production. Open only to majors in dramatic art. Prereq., 351, F.A. 179-180—History of the Visual Theatre, and permission.

355. THEATRE MANAGEMENT

(2) Seigfred

Organization and business management of theatres. Prereq., permission.

481. RESEARCH IN THEATRE PRACTICE

(3 to 6) The Staff

Specific phases of the production process. Attention to classic and contemporary literary treatment. Directed experimentation in theatrical techniques. Prereq., 18 hrs., or 12 hrs. and examination.

491. SEMINAR IN PRODUCTION PROBLEMS

(2 or 3) The Staff

Each student investigates problems in his field of interest. Lectures and group discussion and individual reports. Prereq., 15 hrs.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

RADIO

301. PRINCIPLES OF TELEVISION PRODUCTION

(3) Logan

History of television; its impact upon society and other media of communication; production aspects of television; general principles of transmission and reception. Prereq., 10 hrs. and permission.

309. RADIO—TV ADVERTISING AND MANAGEMENT

(3) Turnbull

A study of the business principles and practices in the broadcasting industry, dealing with problems in radio and TV station operation, with major emphasis on time sales. Prereq., Advt. 155—Advertising Principles, or permission.

316. WRITING FOR RADIO (2) Logan

Writing of scripts including dramatizations of human interest stories, continuity, straight and dramatized commercials, original and adapted short sketches and stories. Prereq., 12 hrs. radio and journalism, or 12 hrs. English.

347. ADVANCED RADIO WORKSHOP (1 to 2) Jukes, Logan

Rehearsal, performance, and technical work connected with radio broadcasting. Maximum credit in course, 4 hrs. Prereq., 8 hrs. including 247—Radio Workshop.

491. SEMINAR IN RADIO PROBLEMS (2 or 3) Jukes, Logan

Individual reading projects and advanced research in production problems, radio music, directing, writing, announcing, and the evaluation of radio programs. Class reports and discussions. Prereq., 12 hrs.

495. THESIS (1 to 6) The Staff

Prereq., permission.

SPEECH

302. ADVANCED ORAL INTERPRETATION (3) Hahne

Emphasis on the developing of skill in oral rendition of the short story, essay, monologue, and various forms of poetry. Preparation of programs for public recitals. Prereq., 34—Oral Interpretation of Literature.

305. PROBLEM SOLVING THROUGH GROUP DISCUSSION (3) Kantner, Ludlum, Staats

Social responsibility, ethical problems and standards; application of the principles of general semantics and group dynamics; purposes, types and methods of discussion; frequent class practice.

309. RHETORICAL THEORY (3) Staats

A detailed study of the principles of rhetoric based upon the theories of Aristotle, Cicero, Quintilian, and Adams. Modern viewpoints are investigated; speeches of eminent orators are analyzed. Prereq., 203-204—History of Oratory, or permission.

401. INTRODUCTION TO GRADUATE WORK (3) Kantner

See Fine Arts 401.

491. SEMINAR IN SPEECH (2 or 3) Andersch

Problems in the teaching of basic speech courses at the college level, evolution of the speech curriculum. Assigned problems. Prereq., 15 hrs.

495. THESIS (1 to 6) The Staff

Prereq., permission.

SPEECH CORRECTION

307. CLINICAL METHODS (3) Andersch

Basic orientation to speech therapy. Observation of children with normal and defective speech. Clinical work in the school situation and in the Children's Speech Clinic. Prereq., 6 hrs. including 195—Principles of Speech Correction.

310. SPEECH PATHOLOGY (3) LaFollette

Anatomy of the vocal mechanism and study of organic speech disorders, such as stuttering, aphasia, cleft palate speech, spastic speech, and speech of the hard of hearing. Prereq., 195—Principles of Speech Correction.

312. PHONETICS

(3) Kantner

The study of speech sounds from a sociological, physiological, and acoustical points of view. Mastery of the international phonetic alphabet. Training in phonetic transcription. Prereq., 6 hrs. or permission.

319. AUDIOMETRY AND SPEECH AND HEARING PROBLEMS (3) LaFollette

Techniques of audiometric testing with clinical practice; interpretation of audiograms; criteria for educational placement and referral; principles of hearing aid selection; public school hearing conservation programs. Prereq., 6 hrs., or equivalent of 6 hrs., and permission. Fee, \$3.

320. ADVANCED CLINICAL METHODS

(3) LaFollette

Methods in speech correction for adults; survey of current literature; clinical experience with adults in such problems as articulatory disorders, stuttering, aphasia, cerebral palsy, cleft palate and loss of hearing. Prereq., 10 hrs. including 310.

323. LIP READING

(3) LaFollette

The basic principles of understanding language by observing the speaker's lips and facial expression. Emphasis on both theory and practice of speech reading. Special attention given to teaching methods. Prereq., 6 hrs.

492. SEMINAR IN SPEECH CORRECTION

(2 or 3) Kantner, LaFollette

Current literature and advanced research in the field of speech correction. Individual reading projects. Class reports and discussions. Prereq., 12 hrs. including 195—Principles of Speech Correction.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

DRAWING—See Art

ECONOMICS

Professor Hellebrandt

Associate Professor Picard (chairman)

Assistant Professor Levinson

Instructor Crewson

To begin a major in economics a student should have at least 18 hours in economics and/or commerce, including 101-102—Principles of Economics.

To begin a minor in economics the student must have completed Principles of Economics.

305. TRANSPORTATION

(2 or 3) Hellebrandt

The social, political, and economic aspects of transportation. The economic characteristics of transportation rates and the machinery developed for their determination and adjustment are emphasized.

309. PUBLIC UTILITIES

(2 or 3) Levinson

The economic basis of the public utility concept and its relation to business organization. The nature, scope, development, legal organization and regulation of public utilities.

315. PUBLIC FINANCE

(3) Picard

Analysis of spending and taxing functions of federal, state, and local governments. The growing importance of fiscal policy in determining level of employment. The economic effects of the various taxes of federal, state, and local governments.

329. COMPARATIVE ECONOMIC SYSTEMS (2 or 3) Crewson

Historical development of various types of suggested economic reforms. Growth and analysis of communism, socialism, facism, and modified capitalism. The economic thought of Marx, Sismondi, G. B. Shaw, H. G. Wells, St. Simon, and others.

330. DEVELOPMENT OF ECONOMIC THOUGHT (2 or 3) Hellebrandt, Picard

The historical evolution of the major economic doctrines: mercantilists and cameralists, physiocrats, Adam Smith and the classical school, the historical school, the Austrian school, Alfred Marshall and the neoclassicists.

332. MODERN ECONOMIC THOUGHT (2 or 3) Picard

A critical analysis of the newer type of economics as presented by John Maynard Keynes.

333. ECONOMIC THEORY (2 or 3) Picard

Analysis of problems facing the firm in determining price. Also the effects on the economy emanating from such pricing policies. Part of the semester is devoted to national income analysis.

335. LABOR ECONOMICS (3) Levinson

Survey of the economic forces generating modern labor problems. Among the topics considered are: history of the labor movement, labor in politics, labor-management relations, wages, and full employment.

338. LABOR LEGISLATION (2) Levinson

Survey of the law bearing upon labor problems. Among the topics considered are labor-relations legislation, old-age and unemployment insurance, workmen's compensation, and wages-and-hours legislation.

342. INTERNATIONAL ECONOMICS (2 or 3) Crewson

Analysis of economic relations among nations of the world. Topics studied include economic effects of exchange control, tariffs, international agreements, resources, cartels, United Nations organizations, and World Trade organizations.

381. RESEARCH IN ECONOMICS (2 to 8) The Staff
Prereq., 15 hrs. and permission.**391. SEMINAR IN ECONOMICS (2 to 4) The Staff**
Maximum credit in course, 10 hrs. Prereq., 15 hrs. and permission.**495. THESIS (1 to 6) The Staff**
Prereq., permission.

Additional courses: Mgt. 301-302—Production Management, Mgt. 312—Administration of Personnel, Mgt. 325—Industrial Relations, Stat. 341—Business Cycles.

EDUCATION

Professors Morton, Hansen, Benz, Shoemaker,
G. E. Hill, Kabat
Associate Professors Dixon, Quick, Beauchamp
Assistant Professors DeLand, C. H. Roberts, McKelvey,
Lynn, Crowell
Acting Instructor Sligo

Students wishing to major in education will be required to have sufficient undergraduate preparation in education to qualify them for

the Ohio provisional certificate or its equivalent. This teaching credential is based upon an approved program of four years of college work including certain professional courses.

Students wishing to minor in education will be required to have 12 hours of undergraduate work in education or closely related fields such as psychology, music education, and the like.

The programs for various special areas of professional education cover the most common interests of graduate students in education. A general major in "education" can be planned for any student not interested in these specializations. Such a major would include the "general requirements" plus additional courses selected to fit the student's needs.

The "suggested electives" in these programs are not rigidly restrictive. Other courses can be added or substituted, with the approval of the advisor.

A minor in education will be arranged for interested students, with choice of courses to suit individual needs.

General Requirements for Majors in Education:

To provide a common basis in fields underlying all aspects of education, all majors in any phase of education are required to complete the following:

One course in the field of the History and Philosophy of Education, selected with approval of the major advisor-----2-3 hrs.

Ed. 428—Advanced Principles of Teaching ----- 3 hrs.

(Students who have a strong background in the field of instruction and teaching methods may fulfill this requirement by taking a qualifying examination. Suggested readings are available and the examination can be arranged through the student's major advisor. Under no circumstances, however, can credit be earned in Ed. 428 by examination only.)

Ed. 488—Introduction to Graduate Study ----- 3 hrs.
(To be taken, if possible, in first term of residence.)

SCHOOL ADMINISTRATION

General Requirements: (8-9 hours as outlined above.)

Major Requirements:

	Hours		Hours
Ed. 410—Administration of the Elementary School -----	2	Ed. 442—School Finance and Business Administration -----	2
Ed. 420—High School Administration --	2	Ed. 443—School Law -----	2
Ed. 440—Local School Administration --	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives) -----	4
Ed. 441—State and National School Administration -----	3		
Suggested Electives:			
Ed. 309—Workshop in Elementary Education -----	3	Ed. 381—Educational Statistics -----	3
Ed. 332—The High School Curriculum --	2	Ed. 385—Educational Measurements ----	3
Ed. 340—School Public Relations -----	2	Ed. 403—Advanced Studies of Children -	3
Ed. 350—History of Education -----	2	Ed. 411—Problems in Elementary Curriculum -----	3
Ed. 352—Comparative Education -----	2	Ed. 412—Seminar in Elementary Education -----	2-4
Ed. 353—Evolution of Educational Thought -----	2	Ed. 444—Human Problems in School Administration -----	3
Ed. 354—Philosophy of Education ----	2	Ed. 445—School Building Planning -----	2
Ed. 360—Guidance Principles -----	3	Ed. 446—Supervision of Instruction ----	2-4
Ed. 361—Guidance Practice -----	3	Ed. 470—Seminar in Secondary Education -----	2-4
Ed. 362—Information Service in Guidance -----	2	Ed. 484—Research in Education -----	1-6
Ed. 374—Improvement of Reading in Secondary Schools -----	2		

SECONDARY SCHOOL ADMINISTRATION

General Requirements: (8-9 hours as outlined on p. 48)*Major Requirements:*

	Hours		Hours
Ed. 332—The High School Curriculum	2	Ed. 470—Seminar in Secondary Education	2-4
Ed. 360—Guidance Principles	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
Ed. 430—High School Administration	2		
Ed. 440—Local School Administration	3		

Suggested Electives:		Ed. 385—Educational Measurements	3
Any course(s) from division of History and Philosophy of Education		Ed. 444—Human Problems in School Administration	3
Ed. 340—School Public Relations	2	Ed. 470—Seminar in Secondary Education	2-4
Ed. 362—Information Service in Guidance	2	Psych. 310—Mental Hygiene	3
Ed. 374—Improvement of Reading in Secondary Schools	2		

SECONDARY EDUCATION

(A major for teachers)

General Requirements: (8-9 hours as outlined on p. 48)*Major Requirements:*

Ed. 360—Guidance Principles	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
Ed. 385—Educational Measurements	3		
Ed. 470—Seminar in Secondary Education	2-4		

Suggested Electives:		Ed. 362—Information Service in Guidance	2
(to complete at least 20 hours for the major)		Ed. 374—Improvement of Reading in the Secondary Schools	2
Any course(s) from division of History and Philosophy of Education		Psych. 310—Mental Hygiene	3
Ed. 332—The High School Curriculum	2		
Ed. 340—School Public Relations	2		

Minor: (8-12 hours in high school teaching subject or subjects)

GUIDANCE COUNSELING

(A major for professional guidance workers)

General Requirements: (8-9 hours as outlined on p. 48)*Major Requirements:*

Ed. 360—Guidance Principles	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
Ed. 361—Guidance Practice	3	Psych. 303—Mental Measurements	3
Ed. 362—Information Service in Guidance	2	Psych. 320—Personnel and Vocational Counseling	2
Ed. 385—Educational Measurements	3		

Suggested Electives:		H.R.—304—Human Relations	3
Any course(s) from division of History and Philosophy of Education		H.R. 493—Seminar in Personnel Administration	2
Ed. 374—Improvement of Reading in Secondary Schools	2	H.R. 494—Seminar in Personnel Administration	2
Ed. 381—Educational Statistics	3	Psych. 310—Mental Hygiene	3
Ed. 460—Seminar in Guidance	2	Psych. 337—Counseling and Psychotherapy	3
Ed. 462—Field Experience in Guidance	2		
H.R. 303—Human Relations	3		

TEACHER COUNSELING

(A major for teachers)

General Requirements: (8-9 hours as outlined on p. 48)*Major Requirements:*

Ed. 360—Guidance Principles	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
Ed. 385—Educational Measurements	3		

Suggested Electives:		Ed. 462—Field Experience in Guidance	2
(to complete at least 20 hours for the major)		Psych. 303—Mental Measurements	3
Ed. 361—Guidance Practice	3	Psych. 310—Mental Hygiene	3
Ed. 362—Information Service in Guidance	2	Psych. 320—Personnel and Vocational Counseling	2
Ed. 460—Seminar in Guidance	2		

Minor: (8-12 hours in teaching field or fields)

ELEMENTARY SCHOOL ADMINISTRATION

General Requirements: (8-9 hours as outlined on p. 48)

Major Requirements:

	Hours		Hours
Ed. 403—Advanced Studies of Children	3	Ed. 412—Seminar in Elementary Education	2-4
Ed. 410—Administration of the Elementary School	2	Ed. 440—Local School Administration	3
Ed. 411—Problems in Elementary Curriculum	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
Suggested Electives:		Ed. 444—Human Problems in School Administration	3
Any course(s) from division of History and Philosophy of Education		Ed. 446—Supervision of Instruction	2-4
Ed. 352—Comparative Education	2	Ed. 484—Research in Education	1-4

ELEMENTARY EDUCATION

(A major for teachers)

General Requirements: (8-9 hours as outlined on p. 48)

Major Requirements:

Ed. 403—Advanced Studies of Children	3	Ed. 412—Seminar in Elementary Education	2-4
Ed. 411—Problems in Elementary Curriculum	3	Ed. 495—Thesis (or, if nonthesis, 4 hrs. from electives)	4
*Suggested Electives: (to complete a minimum of 11 hours)		Ed. 484—Research in Education	1-4
Any course(s) from division of History and Philosophy of Education		Psych. 304—Psychology of Exceptional Children	2
Ed. 385—Educational Measurements	3	Psych. 310—Mental Hygiene	3
Ed. 410—Administration of the Elementary School	2	Psych. 315—Social Psychology	3

(COURSE OFFERINGS)

ELEMENTARY EDUCATION

309. WORKSHOP IN ELEMENTARY EDUCATION (2 to 6) The Staff

A service course to help teachers solve the problems they are facing in the classroom. Workshop method of teaching and learning will be used. Prereq., 9 hrs. and permission.

403. ADVANCED STUDIES OF CHILDREN (3) Quick

An intensive study of certain basic research in child development and its implications for education. Prereq., 15 hrs. education or psychology, or permission.

411. PROBLEMS IN THE ELEMENTARY CURRICULUM (3) Beauchamp and Staff

A critical study of the basic issues and theories underlying curriculum development. Prereq., permission.

412. SEMINAR IN ELEMENTARY EDUCATION (2 to 4) The Staff

A course designed for teachers and administrators who wish to extend their professional preparation through individual research, group study, and planning in the areas of elementary education. Maximum credit in a semester, 2 hrs. Prereq., permission.

*As an alternative to this group of electives, the student may complete a minor in an area other than education or in a combination of education and some other subject-matter field.

HISTORY AND PHILOSOPHY

350. THE HISTORY OF EDUCATION (2) Shoemaker

Studies the agencies of education and the social forces which have conditioned them during ancient, medieval, and modern times. Prereq., 3 hrs. and Educational Psychology.

351. HISTORY OF EDUCATION IN THE UNITED STATES (2) Shoemaker

Shows the European social, economic, and political influence on colonial life and education. The rise and development of public education in the United States is studied in considerable detail. Prereq., 3 hrs. and Educational Psychology.

352. COMPARATIVE EDUCATION (2) Kabat

A study of the educational systems of various countries and the extent to which they meet the needs of the people. Prereq., 6 hrs. education or history or government, and permission.

353. THE EVOLUTION OF EDUCATIONAL THOUGHT (2) Shoemaker

Deals solely with the educational writings of such theorists as Plato, Aristotle, Quintilian, Montaigne, Locke, Comenius, Rabelais, Rousseau, Pestalozzi, Froebel, Herbart, and Dewey. Prereq., 6 hrs. and Educational Psychology.

354. PHILOSOPHY OF EDUCATION (2) Shoemaker

A comparison of pragmatism, idealism, and realism as philosophical bases for education. Each student is helped to formulate his philosophy of education. Prereq., 9 hrs.

355. SOCIAL FOUNDATIONS OF EDUCATION (2) Shoemaker

This course aims to show the interactions between the school and the social order in which it exists. The role of the school will be studied in various types of contemporary societies. Prereq., 9 hrs.

357. PROFESSIONAL LITERATURE AND ORGANIZATIONS IN
EDUCATION (2) The Staff

A study of the professional literature in education. A review of professional organizations, their purposes and contributions to the improvement of education.

458. WORKSHOP IN ECONOMIC EDUCATION (Summer session only)
(3) The Staff

A study of basic economic concepts and practical economic problems with the view to their integration into the school curriculum. Prereq., permission.

GUIDANCE AND COUNSELING

360. GUIDANCE PRINCIPLES (3) Hill

The need for guidance in the schools. The nature of guidance services. The major services, their operation, organization, and evaluation. Prereq., 6 hrs. and Educational Psychology.

361. GUIDANCE PRACTICE (3) Hill

Directed practice in counseling and other personnel services in cooperating schools, to develop greater familiarity and skill in some of the commoner guidance services. Prereq., 360 and permission.

362. INFORMATION SERVICE IN GUIDANCE (2) Hill

The collection, evaluation, and use of occupational and educational information in the school guidance program. Prereq., 360.

450. HIGHER EDUCATION

(2) Kabat and Staff

Designed to give the student a survey of the background and growth of higher education in the United States. Present status of various types of institutions will be studied. Prereq., permission.

460. SEMINAR IN GUIDANCE

(2) Hill and Staff

Advanced study of special problems in guidance. Prereq., 360, 361 or equivalent.

462. FIELD EXPERIENCE IN GUIDANCE

(2) Hill and Staff

Supervised field work in schools in some guidance service. Periodic campus conferences and visitation conferences in the schools are required. Prereq., 361, 362, and permission.

Related courses:

Ed. 381—Educational Statistics, Ed. 385—Educational Measurements, H.R. 303-304—Human Relations, H.R. 493-494—Seminar in Student Personnel Administration, Psych. 303—Mental Measurements, Psych. 316—Psychology of Individual Differences, Psych. 320—Personnel and Vocational Counseling, Psych. 337—Counseling and Psychotherapy.

LIBRARY ADMINISTRATION FOR SCHOOLS**392. ADVANCED LIBRARY ADMINISTRATION**

(2 or 3) Library Staff

Individual projects under the supervision of a member of the library staff, results to be discussed in periodic meetings of the class throughout the semester. Prereq., 191—History of Libraries and the Use of Library Resources, or permission.

393. ADMINISTRATIVE PROBLEMS IN A SCHOOL LIBRARY

(2) F. N. Jones

Study of practical problems in planning adequate library quarters, selection of furniture and equipment, relations with faculty and with purchasing and finance offices. Offered first semester, 1953-1954 and thereafter in alternate years. Prereq., 291—The School Library.

394. SELECTION AND PURCHASE OF BOOKS FOR THE SCHOOL

LIBRARY (2) Library Staff

Introduction to the basic tools of the book trade and to critical aids, with practice in the budgeting of funds, evaluation of prices, and handling of accounts. Offered first semester, 1953-1954 and thereafter in alternate years. Prereq., 291—The School Library.

RESEARCH AND SCIENTIFIC TECHNIQUES**381. EDUCATIONAL STATISTICS**

(3) Morton, Sligo

The tabulation and graphical representation of frequency tables, measures of central tendency, percentiles and percentile curves, measures of variability, probability and the normal curve, and correlation. Prereq., 6 hrs. and Educational Psychology.

382. ADVANCED EDUCATIONAL STATISTICS

(3) Morton

Nonlinear relations, partial correlation, multiple correlation, regression, transmutation of scores, reliability, and the interpretation of correlation coefficients. Practice in the use of logarithms, statistical tables, and calculating machines. Prereq., 381.

385. EDUCATIONAL MEASUREMENTS

(3) Benz, Sligo

The improvement of the essay examination; criteria for evaluating tests; teacher-made objective tests; standardized tests; elementary statistical procedures. Prereq., 6 hrs. and Educational Psychology.

389. WORKSHOP IN THE TEACHING AND SUPERVISION OF

ARITHMETIC (1 to 3) Morton

A summary of research, the implications of educational psychology and a survey of current trends in the teaching and supervision of arithmetic. Prereq., 9 hrs., including a course in the teaching of arithmetic, and Educational Psychology.

483. RESEARCH IN EDUCATIONAL STATISTICS

(2 to 6) Morton

An advanced course in statistics dealing with the derivation of formulae, the analysis of relationships, and the interpretations of results. Prereq., 382 and permission.

484. RESEARCH IN EDUCATION

(1 to 6) The Staff

Students are directed in the investigation of selected phases of educational theory and practice. Prereq., 9 hrs. and Educational Psychology.

488. INTRODUCTION TO GRADUATE STUDY

(3) Hill

Methods of research in education, the selection, planning and evaluation of research problems. The history and purposes of graduate education. Required of all graduate students in education. Prereq., open to all graduate majors and minors in education and to others by permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

SECONDARY EDUCATION

374. THE IMPROVEMENT OF READING IN SECONDARY

SCHOOLS (2) Hansen

The extension of the reading program beyond the elementary school; the teaching of reading as a developmental process. Prereq., 9 hrs.

428. ADVANCED PRINCIPLES OF TEACHING

(3) Hill

A critical appraisal of teaching in the light of available research on learning and teaching. Prereq., 228—Principles of Teaching, or equivalent, and Educational Psychology.

470. SEMINAR IN SECONDARY EDUCATION

(2 to 4) The Staff

A course designed for teachers and administrators who wish to extend their professional preparation through individual research, group study and planning in the areas of secondary education. Maximum credit in a semester, 2 hrs. Prereq., permission.

SCHOOL ADMINISTRATION AND SUPERVISION

332. THE HIGH SCHOOL CURRICULUM

(2 or 3) Benz, Roberts

The high school program of studies, contributions of various subjects, theories of curriculum construction, curriculum research, and desirable steps in the reorganization of the high school curriculum. Prereq., 6 hrs. including 130—Secondary Education.

340. SCHOOL PUBLIC RELATIONS

(2) McKelvey

The function of public relations in school administration in (1) public understanding of the school's work, (2) development of the media for effective communication, (3) furthering lay participation in determination of school policy. Prereq., 6 hrs. and Educational Psychology.

410. ADMINISTRATION OF THE ELEMENTARY SCHOOL

(2) The Staff

The responsibilities of both teachers and principal in democratic administration in such areas as curriculum construction, supervision, plant management, public relations. Practical problems used as a basis of study. Prereq., 6 hrs. including 440.

430. HIGH SCHOOL ADMINISTRATION (2) Dixon, Lynn, McKelvey

The program of studies, the program for health, vocational education, guidance, extracurricular activities, provisions for individual differences, the selection and assignment of teachers, and the school schedule. Prereq., 6 hrs. including 440.

440. LOCAL SCHOOL ADMINISTRATION (3) Crowell, McKelvey

Emphasis upon local and community school administration, including the administrative process, democratic school administration, the role of leadership, structural organization of schools, the board of education and the superintendency. Prereq., 6 hrs.

441. STATE AND NATIONAL SCHOOL ADMINISTRATION**(3) Crowell, Dixon, McKelvey**

Emphasis upon state and national school administration, including the state program of education, state responsibility, educational organization, certification and tenure, national educational services, federal relations to education and national problems in education. Prereq., 440.

442. SCHOOL FINANCE AND BUSINESS ADMINISTRATION (2) McKelvey

Local, state and federal finance, with problems in the financing of schools; business management in such areas as the school budget, financial reports, school purchasing, transportation and insurance. Prereq., 6 hrs. including 440.

443. SCHOOL LAW (2) Crowell, McKelvey

The constitutional basis for education, schools and their legal setting, school legislation and court decisions, with special reference to Ohio school law. Prereq., 440.

444. HUMAN PROBLEMS IN SCHOOL ADMINISTRATION (3) Benz

A course dealing with problems of human relations in school administration. Prereq., 9 hrs. including 440, and permission. Fee, \$5.

445. SCHOOL BUILDING PLANNING (2) Crowell, McKelvey

The planning of new school buildings and sites, plant evaluation, rehabilitation, maintenance problems, and school equipment. Prereq., 440.

446. SUPERVISION OF INSTRUCTION (2 to 4) The Staff

The principles underlying democratic supervision and techniques which promote the growth of teachers in service. Laboratory experiences in analysis of teaching situations. Prereq., 211—The Child and the Curriculum, and 410, or 332 and 430.

472. LABORATORY SCHOOL PROBLEMS (2) The Staff

For critic teachers, demonstration teachers, directors of student teaching in teacher-training institutions, and for those desiring to prepare for such positions. Prereq., 6 hrs. and Educational Psychology and permission.

473. SUPERVISION OF STUDENT TEACHING (4 to 6) The Staff

Designed to prepare students for the work of the supervising teacher in a college or university. Major emphasis will be upon directing student teachers in learning to teach children. Prereq., permission.

SPECIAL EDUCATION**321. ORGANIZATION OF SPECIAL CLASSES FOR HANDICAPPED CHILDREN (2) DeLand**

Types of classes organized, as sight saving, hard of hearing, speech, and mentally retarded. Selection and classification of children, cooperation with other departments, individual case studies and record taking, and follow-up of special class children.

325. PROBLEMS IN SPECIAL EDUCATION—THE SLOW LEARNER

(2 to 6) DeLand

Designed for the regular classroom teacher in elementary and secondary education who might have retarded or slow learners in with average and rapid learners. How to locate their needs and what to do about them.

ELECTRICAL ENGINEERING—See Engineering

ENGINEERING

Professors Green, Wilsey, Gaylord, Black

Associate Professor Clark

Assistant Professors Quisenberry, Selleck

Instructors Hicks, Ali

The standard four-year course in engineering or its equivalent as offered in institutions approved by the Engineering Council for Professional Development is a general prerequisite for graduate study. Graduates in science and other fields of engineering whose programs have included sufficient courses in mathematics, physics, chemistry, the humanities and the social sciences may be accepted as graduate students. Such students must take such undergraduate courses in basic engineering subjects as the staff may require.

381. RESEARCH

(1 to 6) The Staff

Prereq., approval by chairman of department in which work is performed. Fee, \$5.

390. SPECIAL INVESTIGATIONS IN ENGINEERING

(1 to 3) The Staff

Individual work or work in small groups, under guidance, in research or advanced study in a particular field of engineering. Maximum credit in course, 6 hrs. Prereq., approval by chairman of department in which work is performed.

391. SEMINAR

(1 to 3) The Staff

Prereq., approval by chairman of department in which work is performed.

495. THESIS

(1 to 6) The Staff

Prereq., approval by chairman of department in which work is performed.

CIVIL ENGINEERING

(Mr. Gaylord, chairman)

313. ADVANCED SURVEYING PROBLEMS

(2) Clark

Principles and practices in calculations for azimuth, latitude, and longitude by observations on Polaris and the sun with the transit. Land surveying problems, contour lines, use of the plane table. 1 lec., 3 lab. Prereq., 10—Plane Surveying, and 211—Topographic Surveying. Fee, \$2.

314. PHOTOGRAMMETRY

(3) Ali

Equipment and methods used in aerial photography. Use of map-making equipment and study of specialized equipment used by private aerial survey organizations and government agencies. 2 lec., 4 lab. Prereq., 10—Plane Surveying, and 211—Topographic Surveying. Fee, \$3.

326. ADVANCED STRENGTH OF MATERIALS (3) Wilsey

Curved bars; stresses in flat plates; buckling of bars, plates, and shells; theories of strength. Prereq., 120—Applied Mechanics, 222—Strength of Materials, and Math. 315.

327. MECHANICAL VIBRATIONS (3) The Staff

Harmonic and non-harmonic vibrations of systems of one degree of freedom; systems of several degrees of freedom; vibration of elastic bodies. Prereq., 120-121—Applied Mechanics, 222—Strength of Materials, and Math. 315.

328. AERODYNAMICS (3) Wilsey

Aerodynamic characteristics of airfoils and factors affecting stability and control. Performance calculations. Prereq., 120-121—Applied Mechanics, and Math. 315.

330. STRUCTURAL ANALYSIS (4) Gaylord

Not open to graduate students majoring in civil engineering. Theory of analysis of structures for which the conditions of static equilibrium are not sufficient to obtain a solution. Prereq., 120—Applied Mechanics, 222—Strength of Materials, and 230—Structural Analysis.

For other courses in Civil Engineering, see page 55 under Engineering.

ELECTRICAL ENGINEERING

(Mr. Green, chairman)

301-302. COMMUNICATION ENGINEERING (4-4) Green

A study of the fundamentals of communication engineering at radio and telephone frequencies. Network theorems, resonance, transmission lines, filters and coupled circuits. Impedance matching, amplifiers, modulators, radiation and applications to radio and telephone apparatus. 3 lec., 2 lab. Prereq., 201-202—Circuits and Machinery, or 211-212—Electrical Engineering. Fee, \$5 a semester.

303-304. ELECTRICAL ENGINEERING (4-4) Selleck

Characteristics and performance of A. C. machines including static transformers, synchronous generators, synchronous and induction motors, advanced circuit analysis. Prereq., 211-212—Electrical Engineering, and 213-214—Dynamo and Measurements Laboratory.

305-306. ELECTRICAL ENGINEERING LABORATORY (2-2) Selleck

Measurement and predetermination of characteristics of A. C. machinery. 4 lab. Prereq., with 303-304. Fee, \$5 a semester.

307-308. ENGINEERING ELECTRONICS (3-3) Green

A comprehensive theoretical and practical treatment of the fundamentals of electronics and the general properties of electronic tubes with application to engineering. 2 lec., 2 lab. Fee, \$5 a semester.

321-322. HIGH FREQUENCY TECHNIQUES (3-3) Green

Application of electronic and communication principles to high-frequency circuits, including trigger and pulse circuits, high-frequency oscillators, transmission lines, electromagnetic waves, wave guides and radiation. Prereq., 201-202—Circuits and Machinery, or 211-212—Electrical Engineering. Fee, \$5 a semester.

323, 324. ADVANCED RADIO LABORATORY (1 to 4, 1 to 4) Green

Special problems of current interest in the field of radio engineering. 2-8 lab. Prereq., 101—Fundamentals of Radio, or 301. Fee, \$5 a semester.

325. ACOUSTICS

(3) Green

Principles of sound generation and propagation in free space and in enclosures, methods of sound measurement; characteristics of speakers, microphones and receivers; design of horns; acoustics of auditoriums, theaters and broadcasting studios; public address systems. 2 lec., 2 lab. Fee, \$5.

328. ILLUMINATING ENGINEERING

(3) The Staff

Principles of light and radiation; various light sources, their characteristics and efficiencies; principles and practice of photometry; design of illumination for various types of homes and industries. Laboratory gives practice in illumination measurements. 2 lec., 2 lab. Fee, \$5.

331. SERVOMECHANISMS

(3) Quisenberry

Automatic controller design, including the study of viscous output damping, error rate damping, integral control, error rate stabilization networks and transfer functions. Prereq., 201-202—Circuits and Machinery, or 211-212—Electrical Engineering, and Math. 315.

341. ELECTRICAL TRANSMISSION OF POWER

(3) Selleck

Economic and electrical principles of transmission of electrical power, line equations and calculations, hyperbolic solution of long lines, insulation and protection against transients, mechanical principles and practical line construction. Prereq., 201-202—Circuits and Machinery, or 211-212—Electrical Engineering.

342. SYMMETRICAL COMPONENTS

(3) Quisenberry

Circuits analysis by symmetrical components. Representation of unbalanced polyphase currents and voltages by component symmetrical sets; solution of faults on power systems. Prereq., 201-202—Circuits and Machinery, or 211-212—Electrical Engineering.

344. ELECTRICAL DESIGN

(3) Selleck

Fundamental electric machine design relations. After a preliminary study, the student designs a direct current generator, a transformer, and an induction motor and predetermines the performance. Prereq., 303.

345-346. PROBLEMS IN ADVANCED A.C. MACHINERY

(3-3) The Staff

Problems taken up deal with transient conditions in alternators, motors, and transformers. Applications of the methods of symmetrical components to unbalanced operating conditions. 2 lec., 2 lab. Prereq., 304 and 306. Fee, \$3 a semester.

401. ELECTRICAL STATION DESIGN

(3) Quisenberry

The application of economic principles to the problems of electric generating station design, selection of apparatus, balancing initial and subsequent costs, interrelation of the mechanical and electrical elements of design. Prereq., 304.

For other courses in Electrical Engineering, see page 55 under Engineering.

MECHANICAL ENGINEERING

(Mr. Black, chairman)

302. DYNAMICS OF MACHINERY

(3) Black

Analytical and graphical studies of velocities and accelerations, and of static and inertia forces in machinery; engine force analysis and balancing of machinery. Prereq., 201—Mechanism, and/or with C.E. 121—Applied Mechanics.

303. MACHINE DESIGN**(3) Black**

Application of mechanics, mechanism, materials and mechanical processes to the design and selection of machine members and units of power transmission. Prereq., 201—Mechanism, 211—Engineering Metallurgy, C.E. 222—Strength of Materials, and 223—Testing Laboratory, Ind. A. 13—General Cold Metals, and 14—General Hot Metals.

304. MACHINE DESIGN**(3) Black**

Application of the work covered in 303 to the design of complete machines and sub-assemblies. 6 lab. Prereq., 303.

311. AIR CONDITIONING AND REFRIGERATION**(3) The Staff**

Heating, cooling, humidifying and decontamination of air for domestic and commercial purposes, and refrigeration and heating practice. Prereq., 222—Thermodynamics.

312. INTERNAL COMBUSTION ENGINES**(4) The Staff**

Analysis and testing of spark-ignition and compression-ignition engines including combustion thermodynamics, carburetion, detonation, fuels and fuel injection. 3 lec., 2 lab. Prereq., 222—Thermodynamics. Fee, \$3.

314. HEAT TRANSFER**(3) Hicks**

Basic concepts of conduction, convection and radiation; steady and unsteady states, film coefficients and dimensional analysis. 2 lec., 1 lab. Prereq., 222—Thermodynamics. Fee, \$1.

392. ADVANCED MACHINE DESIGN**(3) Black**

Advanced problems in the design and analysis of machine members including consideration of stress propagation; stress analysis; fatigue and creep; mechanical vibration; Coriolis' acceleration; Castigliano's theorem; and graphical analysis. Prereq., with 303 or permission.

393. LUBRICATION AND FRICTION**(3) Black**

Derivation of Reynold's equation and its application to bearings and gear teeth; load capacity and thermal equilibrium. Boundary lubrication, lubricant composition, surface finish, bearing materials and bearing performance. Prereq., Math. 315, C.E. 120-121—Applied Mechanics, and permission.

For other courses in Mechanical Engineering, see page 55 under Engineering.

ENGLISH

Professors Mackinnon, Wray, Foster, Heidler,

Peckham, Hodnett (chairman)

Associate Professors McQuiston, Lash, Kendall, Kirchner

Assistant Professor Thompson

To begin a graduate major in English the student will have completed essentially the requirements for a Bachelor of Arts major in English.

In order to qualify as a graduate minor in English, a student will normally present 18 hours of undergraduate credit in English.

311. HISTORY OF THE ENGLISH LANGUAGE**(3) Thompson**

An elementary account of the growth of the English language; its relation to other world languages; the vocabulary and grammar of Anglo-Saxon, Middle English and Modern English; selections from early English literature. (1st sem., 1952-1953.)

312. CHAUCER (3) Thompson
Chaucer, his life and his world; contemporary literature; his early works; *The Canterbury Tales*; *Troilus and Criseyde*; Chaucer scholarship. Prereq., 311 recommended. (2nd sem., 1952-1953.)
321. SIXTEENTH CENTURY LITERATURE (3) Wray
A study of England's part in the Renaissance and the humanistic movement as revealed in the works of the chief poets and prose writers of the century, especially Spenser. (1st sem., 1953-1954.)
322. ELIZABETHAN DRAMA (3) Kendall
A study of the English drama from 1550 to 1642, thus including the predecessors, the contemporaries, and the immediate followers of Shakespeare. (2nd sem., 1953-1954.)
323. SHAKESPEARE (3) McQuiston
Shakespeare's development as a writer of comedies and historical dramas; his life and social background; the Elizabethan stage and theatrical companies. (1st sem. yearly.)
324. SHAKESPEARE (3) McQuiston
Intensive analysis of the great tragedies and more rapid reading of the other tragedies and the sonnets; Shakespearean scholarship and criticism. (2nd sem. yearly.)
331. SEVENTEENTH CENTURY LITERATURE (3) Foster
The poetry and prose of such writers as Donne and Bacon; Herrick and other Cavalier and metaphysical poets; Browne, Walton, Hobbes, Bunyan, Pepys; Restoration plays. (1st sem., 1952-1953.)
332. SEVENTEENTH CENTURY LITERATURE (3) Foster
John Milton's minor poems, some of his prose, and *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*; John Dryden as poet, dramatist, and critic. (2nd sem., 1952-1953.)
341. EIGHTEENTH CENTURY LITERATURE (3) Heidler
The poetry of Pope and Gay; the essays of Addison and Steele; the works of Swift and Defoe; the novels of Richardson and Fielding; the drama. (1st sem., 1953-1954.)
342. EIGHTEENTH CENTURY LITERATURE (3) Heidler
Dr. Johnson, his works, his personality, his friends; Boswell and his biography of Johnson; Goldsmith and Sheridan; Walpole; Gray and Cowper; the philosophers. (2nd sem., 1953-1954.)
351. POETRY OF THE ROMANTIC PERIOD (3) Peckham
The poetry of Wordsworth, Coleridge, Byron, Shelley, Keats; philosophical background and historical context of Romanticism—Rousseau, Godwin, the French Revolution, the Napoleonic Empire. (1st sem., 1952-1953.)
352. POETRY OF THE VICTORIAN PERIOD (3) Peckham
The poetry of Tennyson, Browning, Arnold, Swinburne, the Pre-Raphaelites, Meredith, and Hopkins and its relation to Victorianism; Hardy, Masfield, and other Edwardians and Georgians. (2nd sem., 1952-1953.)
353. ENGLISH PROSE OF THE NINETEENTH CENTURY (3) Wray
A study of the essayists and major prose writers of the Romantic and Victorian periods, including Lamb, Hazlitt, DeQuincey, Coleridge, Carlyle, Newman, Ruskin, Huxley, and Arnold. (1st sem., 1952-1953.)

356. EMERSON, THOREAU, AND THE CONCORD GROUP (3) Kirchner

A study of Emerson, Thoreau, Alcott, Fuller, and others whose lives and writings were influenced by that American form of idealism which has come to be known as Transcendentalism. Prereq., 111—The Chief American Writers. (2nd sem., 1953-1954.)

358. WHITMAN THROUGH FROST (3) Kirchner

American poetry and its social context from Whitman and Dickinson through such early twentieth century poets as Robinson, Sandburg, Lindsay, Masters, and Frost. (2nd sem., 1952-1953.)

372. HISTORY OF LITERARY CRITICISM (3) Thompson

A review of the theories and practice of literary criticism in Europe from Aristotle through the Renaissance, neoclassic, and Romantic schools to the present. (2nd sem., 1953-1954.)

390. STUDIES IN ENGLISH (3) Hodnett and Staff

Directed reading and research in English or American literature for individual students with special interests and competence. Conferences and papers. Maximum credit in course, 6 hrs. Prereq., permission. (Every semester.)

495. THESIS (1 to 6) Hodnett and Staff

Prereq., permission. (Every semester.)

FINANCE

Professor Hanson (chairman)

Associate Professors Leavitt, Paynter

Lecturer Wolfe

To begin a graduate major or minor in finance the student will be expected to have completed 32 hours in commerce, economics or related courses including elementary accounting. Related courses may be in Business Psychology, Business and Professional Ethics, etc.

301. THE STOCK MARKET (2) Hanson

The organization, operation, and regulation of stock exchanges, with particular reference to the New York Stock Exchange. Prereq., 101—Money and Credit, and 121—Business Finance.

306. INVESTMENT POLICY (3) Wolfe

Investment programs of individuals and financial institutions; analysis of securities of industrial, public utility, railroad, banking, insurance and investment companies; interpretation of financial factors, business conditions and security price movements. Prereq., 275—Investment Principles, or permission.

312. CREDITS AND COLLECTIONS (2) Paynter

The principles, methods, and policies of mercantile and retail credit. Prereq., 101—Money and Credit, and Ec. 101-102—Principles of Economics.

315. PROPERTY AND CASUALTY INSURANCE (3) Hanson, Leavitt

The economics of property and casualty insurance; its uses and types such as fire, extended coverage, consequential loss, public liability, automobile, accident and health, etc. Prereq., Ec. 101-102—Principles of Economics, or permission.

316. LIFE INSURANCE

(2 or 3) Hanson, Leavitt

The fundamental economics of life insurance. The principles and practices of life insurance including types of contracts, group and industrial insurance, annuities, etc. Prereq., Ec. 101-102—Principles of Economics, or permission.

351. BANKING PRINCIPLES

(3) Hanson, Leavitt

The theory and operation of commercial and central banking in the United States with special emphasis upon the economic effects of expansion and contraction of credit upon the economy. Prereq., 101—Money and Credit, and Ec. 101-102—Principles of Economics.

352. INTERNATIONAL FINANCE

(3) The Staff

An introduction to foreign banking and monetary systems and their relationship to American financial institutions; includes operation of the International Monetary Fund and Bank, price relationships, foreign exchange and investments. Prereq., 101—Money and Credit, and Ec. 101-102—Principles of Economics.

356. ADVANCED BUSINESS FINANCE

(3) The Staff

The sale of securities, distribution of income, expansions and reorganizations. Prereq., 101—Money and Credit, and 121—Business Finance.

381. RESEARCH IN FINANCE

(2 to 8) The Staff

Special studies in money, banking, or business finance. Prereq., 9 hrs., Ec. 101-102—Principles of Economics, and permission.

391. SEMINAR IN FINANCE

(2 to 4) The Staff

Maximum credit in course, 10 hrs. Prereq., 9 hrs., Ec. 101-102—Principles of Economics, and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

Additional course: Ec. 315—Public Finance.

FINE ARTS

Professor Kantner

401. INTRODUCTION TO GRADUATE WORK

(3) Kantner

Men, movements, organizations, and professional literature in the field of speech. Conduct of research and selection of a thesis problem.

FRENCH—See Romance Languages**GEOGRAPHY AND GEOLOGY**

Professor Dow (chairman)
Associate Professor Sturgeon
Instructor Rudd
Acting Instructor Lalor

Graduate students who wish to minor in geography should have a minimum of 12 hours in geography, including either 3-4—Elements of Geography, or 250—Geography and Environment, and courses approved by the department. A major program in geography is not offered.

Graduate students who wish to minor in geology should have a minimum of 12 hours, including 1-2—Elements of Geology, or 201—Principles of Geology, and 126-127—Historical Geology, and courses approved by the department. A major program in geology is not offered.

GEOGRAPHY

301. GEOGRAPHY OF THE SOVIET UNION (3) The Staff
Intensive geographic study of the Soviet Union.

302. CLIMATOLOGY (2 or 3) The Staff
Nature, causes, and significance of weather and climatic phenomena on a world-wide regional basis. Prereq., 275—Fundamentals of Meteorology.

310. POLITICAL GEOGRAPHY (3) The Staff
Relationships between local, national and international problems and the basic geographic principles and factors involved. International phases emphasized.

315. CARTOGRAPHY AND GRAPHICS (2 or 3) The Staff
The elementary principles of map projections, map drawing and graph making. Prereq., permission.

382. FIELD STUDIES AND SPECIAL PROBLEMS IN GEOGRAPHY (1 to 4) The Staff
Supervised geographic studies of local areas, industries, or conditions involving fundamentals of geographic research. Fee, \$3.

GEOLOGY

314. PHYSIOGRAPHY (3) Dow, Rudd
Introduction to the earth's surface features and pertinent geologic structures emphasizing the physiography of North America. 2 lec., 2 lab., field trips. Fee, \$4.

325. GLACIAL GEOLOGY (3) Dow, Rudd
Study of valley and continental glaciers and glaciation. 2 lec., 2 lab., field trips. Prereq., 126-127—Historical Geology. Fee, \$4.

330. GEOLOGY OF OHIO (2) Sturgeon
Introduction to the geology of Ohio emphasizing physiography, stratigraphy, and economic geology. 2 lec., field trips. Prereq., 126-127—Historical Geology. Fee, \$2.

- 340-341. PALEONTOLOGY (3-3) Sturgeon
Introduction to fossils emphasizing the invertebrates, their morphology, classification, identification, and distribution. Index fossils emphasized. 2 lec., 3 lab., field trips. Prereq., 126-127—Historical Geology, or Zool. 326. Fee, \$5 a semester.

383. FIELD STUDIES AND SPECIAL PROBLEMS IN GEOLOGY (1 to 4) The Staff
Supervised geologic studies of local areas or geologic problems involving fundamentals of research. Fee, \$3.

GERMAN

Professor Hess

Associate Professor Krauss (chairman)

To begin a graduate major in German, the student should have completed a minimum of 20 hours of undergraduate courses above Beginning German, and including German Grammar and Composition.

To begin a graduate minor, the student should have completed a minimum of 8 hours of undergraduate courses above Beginning German.

301, 302. SURVEY OF GERMAN LITERATURE (3, 3) Hess

Prereq., 102—Intermediate German.

303, 304. READINGS FROM GERMAN LITERATURE (1 to 4, 1 to 4) The Staff

Selected readings adapted to the needs of the class or the student. Maximum credit in each course, 8 hours. Prereq., 102—Intermediate German.

311, 312. MODERN GERMAN DRAMA (3, 3) Hess

A study of the German drama of the nineteenth century and the reading of the more important plays connected with the various movements. Prereq., 102—Intermediate German, or 4 yrs. high school German.

313. CLASSICAL GERMAN DRAMA (3) Hess

Plays of Lessing, Goethe, and Schiller are studied in relation to German classicism. Prereq., 102—Intermediate German.

314. GOETHE'S FAUST (3) Hess

A detailed study of Goethe's greatest contribution to modern thought and life. Prereq., 313.

319. THE GERMAN SHORT STORY, 1800-1850 (2) Krauss

Reading of representative short stories from Romanticism to Poetic Realism with discussion of the literary movements. Includes Kleist, Eichendorff, Hoffmann, Chamisso, Droste von Huelshoff. Prereq., 102—Intermediate German.

320. THE GERMAN SHORT STORY, 1850-1900 (2) Krauss

Reading of representative short stories of Poetic Realism with discussion of this literary movement. Includes Hauff, Stifter, Heyse, Keller, Meyer. Prereq., 102—Intermediate German.

321. CONTEMPORARY GERMAN SHORT STORY (2) Krauss

Reading of representative stories from Naturalism to the present time with discussion of the various literary movements. The course may be taken either before or after Ger. 319 and 320. Prereq., 102—Intermediate German.

322. WAGNER'S POETICAL WORKS (2) Krauss

Richard Wagner's principal music dramas will be read and discussed for their literary and dramatic content. Musical highlights will be illustrated with phonograph records. Prereq., 102—Intermediate German.

323. GERMAN LYRICS AND BALLADS (2) Krauss

Reading and discussion of the German lyrics and ballads since Goethe. Prereq., 102—Intermediate German.

371. ADVANCED GERMAN (1 to 4) The Staff

Reading and research in German literature designed to meet the special interests of advanced students. Maximum credit in course, 8 hours. Prereq., 6 hrs. beyond 102—Intermediate German.

495. THESIS (1 to 6) The Staff

Prereq., permission.

GOVERNMENT

Assistant Professors Gusteson,
Collins (acting chairman)
Instructor Elsbree

To begin graduate work with government as a major, a minimum of 18 hours in government, or its equivalent, is required.

To begin a graduate minor in government, 6 hours of government, or its equivalent, is required.

301, 302. AMERICAN CONSTITUTIONAL LAW (2, 2) Gusteson

Principles underlying American constitutional government as seen in leading cases, with special reference to interpretation of the United States Constitution.

303. MUNICIPAL GOVERNMENT AND ADMINISTRATION (2 or 3) Collins

The creation and legal powers of cities, municipal elections and political bosses; an analysis of the administrative functions and problems of city government: personnel, finance, police, public utility regulation and ownership. Prereq., 6 hrs.

305. AMERICAN POLITICAL PARTIES (2 or 3) Gusteson

The origin and growth, the organization and methods of parties, the influence of economic and social conditions on party policy, the position and functions of the party system in democracies. Prereq., 6 hrs.

308. LEGISLATURES AND LEGISLATIVE PROCESSES (2 or 3) Gusteson

Major problems of representative government with respect to legislative assemblies. Analysis of structure, organization, and procedures; problems of representation; relationship between the legislature, the executive, courts, and the people. Prereq., 6 hrs.

309. LAW ENFORCEMENT (2 or 3) Gusteson

Survey and analysis of the problems of the American policing, prosecutory, judicial, and correctional system. Emphasis on both policy making and administration. Prereq., 6 hrs.

316. INTERNATIONAL RELATIONS (2 or 3) Elsbree

Basic factors involved in world politics, including nationalism, and militarism, the evolution of international relations, forces and conditions affecting international relations, and the formulation of national foreign policies.

317. CURRENT INTERNATIONAL PROBLEMS (2 or 3) Elsbree

The nonhistorical study of international problems arising from the conflict of national foreign policies, programs for national security, efforts toward world political and economic order, and contemporary policies of the Great Powers.

323. INTERNATIONAL LAW (2 or 3) Collins

The development of the principles of international law governing the community of nations, their present status and unsettled features, agencies for interpreting and administering international law. Prereq., 6 hrs.

341. AMERICAN FOREIGN POLICY (2 or 3) Collins

A consideration of the problems involved in the formulation and execution of foreign policy. Particular emphasis is given to the current problems of American policy.

343. AMERICAN POLITICAL THOUGHT

(2 or 3) The Staff

The origin and development of political ideas in the United States, growth of democratic principles from the colonial times to 1865, and an analysis of recent trends in American political thought. Prereq., 6 hrs. or 9 hrs. history.

344. RECENT POLITICAL THOUGHT

(2 or 3) The Staff

Recent political theories basic to political and social institutions: individualism, collectivism, fascism, and democracy; emphasis on the European version of democracy, totalitarianism of the communist and fascist states. Prereq., 6 hrs. or 6 hrs. European history.

348. PUBLIC ADMINISTRATION

(2 or 3) Collins

The theory and practice of administrative organization, and control of administrative action, with emphasis on financial and public personnel administration. Basic course for preparation for civil service examinations. Prereq., 6 hrs.

349. ADMINISTRATIVE LAW

(2 or 3) Collins

Organization, functions, procedures, and administrative problems of selected national regulatory agencies; principles affecting administrative discretion; administrative power over private rights; enforcement and judicial control of administrative action. Prereq., 6 hrs.

398. PROBLEMS IN GOVERNMENT

(1 to 3) The Staff

Research or directed reading based upon the student's special interest. Maximum credit in course, 6 hrs. Prereq., 15 hrs. and permission.

401. RESEARCH IN GOVERNMENT

(1 to 3) The Staff

Maximum credit in course, 6 hrs. Prereq., 15 hrs. and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

Greek—See Classical Languages**HISTORY**

Professors Volwiler (chairman), Whitehouse, Cady
Associate Professors Morrison, Gustavson
Assistant Professor Kershner

To undertake graduate work with history as a major, a minimum of 18 hours in history is required, including the basic survey courses in European and American history, or their equivalent.

To begin a graduate minor in history, a minimum of 6 hours in history, or approved equivalents, is required.

Graduate students majoring in history are required to take Hist. 395.

301. COLONIAL AMERICA

(2) Kershner

The discovery and colonization of America, relation of the colonies to England, and the daily life of colonial Americans. Prereq., 6 hrs.

302. THE REVOLUTIONARY ERA

(3) Kershner

An intensive study of the causes of the Revolution, the struggle for independence, the movement for a new government, and the framing of the Constitution. Prereq., 6 hrs.

304. FEDERALISM AND JEFFERSONIAN DEMOCRACY (2) Kershner

The shaping of America's political, social, and economic institutions, constitutional development, and traditional foreign policy under the Founding Fathers and the exponents of Jeffersonian democracy. Prereq., 6 hrs.

310. SECTIONAL CONTROVERSY, 1820-1850 (2) Morrison

Slavery and political controversy, rise of the common man, rural conditions, transportation, immigration, education, the factory system, reform agitation, territorial annexations, growth of nationality. Prereq., 6 hrs.

312. THE CIVIL WAR AND RECONSTRUCTION (3) Morrison

The sections of the United States in 1850, forces leading to war, the great conflict; Reconstruction, its background and development; restoration of home rule in the South. Prereq., 6 hrs.

315. FOUNDATIONS OF TWENTIETH CENTURY UNITED STATES, 1877-1900 (3) Volwiler

Social and intellectual conditions, agrarian unrest, rise of large corporations and their regulation, railroad building, tariff policies, the Spanish-American War, and the drift toward imperialism and world power. Prereq., 6 hrs.

325. THE WESTWARD MOVEMENT (3) Volwiler

Expansion from the Atlantic to the Pacific. Indian trade, land policies, pioneer life, territorial acquisitions and state making, trails and railroads to the Far West, cowboy land, types of later frontiers, and influence of the West upon American ideals and institutions. Prereq., 6 hrs.

331, 332. SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES (3, 3) Kershner

Prereq., 6 hrs.

350. THE BRITISH EMPIRE (3) Cady

Prereq., 6 hrs.

352. INDIA AND SOUTHEAST ASIA IN MODERN TIMES (2) Cady

Historic civilizations of India and Southeast Asia; the impact of Western colonial rule on the peoples of the area; readjustment following the gradual liquidation of colonial empires. Prereq., 6 hrs.

357. LATIN AMERICA AND THE UNITED STATES (2 or 3) Whitehouse

A topical treatment of the diplomatic relations between the United States and the Latin American countries. Prereq., 6 hrs.

360. THE RENAISSANCE (2) Gustavson

Prereq., 6 hrs.

362. THE REFORMATION (2) Gustavson

Prereq., 6 hrs.

365. FRENCH REVOLUTION (3) Gustavson

An intensive study, within narrow time limits, of such historical factors as causation, influence of ideology, institutional organization, and the role of the individual in a great social upheaval. Prereq., 9 hrs.

370. EUROPE BETWEEN WORLD WARS (3) Gustavson

Fascism, communism, and the twenty-year armistice between 1919 and 1939. Prereq., 6 hrs.

372. CONTEMPORARY EUROPE (3) Gustavson
Problems of peace and war in present-day Europe. Prereq., 6 hrs.
375. HISTORY OF RUSSIA (3) Gustavson
A survey from the earliest times to the present. The Russian background of communist ideas, organization, and practices is stressed. Prereq., 6 hrs.
385. IMPERIALISM AND WORLD POLITICS (3) Volwiler
Types of imperialism; empire building during the nineteenth and twentieth centuries by Russia, Japan, United States, Great Britain, France, Germany, and Italy. Prereq., 6 hrs.
390. REPRESENTATIVE HISTORIANS AND THEIR WRITINGS (2 or 3) Volwiler
Typical historians from the time of Herodotus with readings from their masterpieces to illustrate schools of interpretation, philosophies of history, and the development of historical writing. Prereq., 12 hrs.
392. PROBLEMS IN HISTORY (1 to 3) The Staff
Intensive individual work either in research or in systematic reading along the lines of the student's special interest under the supervision of a member of the staff. Prereq., 15 hrs. and permission.
395. HISTORIOGRAPHY AND METHODOLOGY (3) Volwiler
An introduction to the technique of historical investigation with practice in historical criticism and writing. Prereq., 15 hrs.
398. SEMINAR IN HISTORY (1 to 3) The Staff
Reports based upon original research with group discussion and criticism. Maximum credit in course, 6 hrs. Prereq., 15 hrs. and permission.
495. THESIS (1 to 6) The Staff
Prereq., permission.

HOME ECONOMICS

Professors Justin,
V. M. Roberts (director)
Associate Professors Patterson, Morse, Miller
Assistant Professor Macauley
Instructors Bane, Campbell, Nehls

A student desiring a master's degree with a major in the School of Home Economics must have a minimum of 18 semester hours of undergraduate preparation in the field of Home Economics in which she wishes to specialize and/or in approved related fields.

A student desiring a graduate minor in the School of Home Economics must have a minimum of 12 semester hours of undergraduate preparation in the field of Home Economics in which she wishes to specialize and/or in approved related fields.

GENERAL HOME ECONOMICS

390. FIELD WORK IN HOME ECONOMICS (2 to 4) The Staff
Through cooperation with business organizations and the Home Economics Extension Department, opportunities are given for "on-the-job" training and practical experience. Students are assigned to a faculty

advisor who serves as coordinator of the work established with these outside agencies. Prereq., 18 hrs. and permission.

- a. Home Economics Extension
- b. Home Service Work with Public Utilities
- c. Institutional Management

391. SEMINAR IN HOME ECONOMICS (1 or 2) The Staff
Prereq., 18 hrs. and permission.

495. THESIS (1 to 6) The Staff
Prereq., permission.

CHILD DEVELOPMENT AND FAMILY LIFE

375. PROBLEMS IN CHILD DEVELOPMENT OR FAMILY LIVING (2 or 3) Justin

An intensive study of a phase of child development or a problem in family living. The Nursery School may be used as a laboratory if desired. Maximum credit in course, 6 hrs. Prereq., 6—Family Living, and 172—Child Development, or 6 hrs. psychology and/or sociology. Fee, \$3.

377. TECHNIQUES WITH YOUNG CHILDREN (3) Justin, Nehls

Techniques of guidance of nursery school children, with emphasis on emotional and social development of the child and the effect of family attitudes on behavior. 2 lec., 3 lab. at Nursery School. Prereq., 6—Family Living, and 172—Child Development. Fee, \$3.

378. ADMINISTRATION OF GROUP CARE OF YOUNG CHILDREN (Not offered in 1953-1954) (3) Justin

The organization and administration of nursery school. Prereq., 6—Family Living, and 172—Child Development.

379. PROBLEMS IN GUIDANCE OF NURSERY SCHOOL CHILDREN (2 to 4) Nehls

Techniques of handling young children are learned through observation and participation in the Nursery School. Maximum credit in course, 6 hrs. Prereq., 377 or 6 hrs. psychology and permission. Fee, \$3.

477. SPECIAL PROBLEMS IN FAMILY RELATIONSHIPS OR CHILD DEVELOPMENT (2 or 3) Justin

An intensive study of a problem in family relationships or child development. Maximum credit in course, 6 hrs. Prereq., 6—Family Living, and 172—Child Development, or 12 hrs. psychology, sociology and/or human relations.

CLOTHING AND TEXTILES

310. TECHNIQUES IN CLOTHING DESIGN (Summer session only) (2) Morse

An advanced course in clothing that offers opportunity for creative expression and for an understanding of pattern through the handling of fabrics on the dress form. Dresses are designed, draped, and constructed. 1 lec., 3 lab. Prereq., 3-4—Clothing and Textiles. Fee, \$3.

311. ECONOMICS OF TEXTILES AND CLOTHING (2) Morse

A study of the production, distribution, and qualities of textiles and clothing. Selected problems on lingerie, hosiery, furs, gloves, shoes, etc. Prereq., 4—Clothing and Textiles; for non-majors, 110—Textiles, and 3 hrs. economics.

312. DESIGN AND CONSTRUCTION WITH TEXTILES (3) Morse

The use of fabrics and yarns in original designs for clothing and accessories. Offered in alternate years. Prereq., 4—Clothing and Textiles.

315. HISTORY OF COSTUME AND TEXTILES (2) Morse
Study of costume and textiles through the ages as a basis for the understanding and appreciation of present-day costumes. Prereq., 4—Clothing and Textiles.

316. CLOTHING DESIGN AND CONSTRUCTION (3) Morse
Two dresses are designed, draped, and constructed. One tailoring problem is given. 6 lab. Prereq., 4—Clothing and Textiles. Fee, \$3.

317. WORKSHOP IN CLOTHING (Summer session only) (4) Bane
Advanced techniques in clothing with emphasis on fitting and pattern study. Prereq., permission. Fee, \$3.

318. ADVANCED TEXTILES (3) Morse
Physical and chemical examination of fibers and fabrics. Problems in the comparison and evaluation of fabrics. 1 lec., 4 lab. Prereq., 4—Clothing and Textiles. Fee, \$3.

319. PROBLEMS IN TEXTILES OR CLOTHING (1 to 3) Bane, Morse
Intensive study of one or more problems related to textiles or clothing. Maximum credit in course, 6 hrs. Prereq., 6 hrs. clothing and textiles and permission.

FOODS AND NUTRITION

320. CREATIVE COOKERY AND MEAL MANAGEMENT
(Summer session only) (2 to 4) Roberts
An advanced course emphasizing the creative, scientific, and artistic phases of food preparation and meal management. To be conducted as a workshop with special lectures, demonstrations, and individual and group projects. Prereq., permission. Fee, \$5.

322. EXPERIMENTAL COOKERY (3) Miller
Group and individual experiments on selected problems of food preparation. Offered in alternate years. 1 lec., 4 lab. Prereq., 2—Foods, Nutrition and Meal Planning, and Chem. 113—Organic Chemistry. Fee, \$5.

323. FOOD PRESERVATION (2) Miller
Methods of home food preservation and factors affecting palatability and retention of nutrients in processed food. 1 lec., 2 lab. Prereq., 2—Foods, Nutrition and Meal Planning. Fee, \$5.

326. ADVANCED NUTRITION (3) Miller
Application of principles of nutrition to the feeding of individuals and families under varying physiological, economic, and social conditions. 2 lec., 2 lab. Prereq., 225—Family Nutrition. Fee, \$3.

327. QUANTITY COOKERY (3) Macauley
Preparation and serving of foods in large quantities. Use of modern equipment. Laboratory practice in the cafeteria and residence halls of Ohio University. Prereq., 2—Foods, Nutrition and Meal Planning.

328. RECENT DEVELOPMENTS IN FOODS AND NUTRITION
(Summer session only) (3) Roberts
Reports, discussions, and reviews of scientific literature. Some laboratory projects may be included. Prereq., 2—Foods, Nutrition and Meal Planning.

329. NUTRITION IN DISEASE (2) Macauley
The use of diet in the prevention and treatment of disease. Problems in planning and preparing therapeutic diets. 1 lec., 2 lab. Prereq., 326. Fee, \$3.

340. PROBLEMS IN FOODS AND NUTRITION (2 or 3) Macauley, Miller, Roberts

A comprehensive study of nutrition, experimental foods, food or nutrition chemistry, or institutional management. Maximum credit in course, 6 hrs. Prereq., 9 hrs. foods and nutrition and permission. Fee, \$5.

342. INSTITUTION MARKETING AND MEAL MANAGEMENT (2) Macauley

Studies in production, distribution and storage of food supplies to serve as a basis for the purchase of such commodities for quantity use. Record keeping involved in food service. 1 lec., 2 lab. Prereq., 327. Fee, \$2.

343. INSTITUTION EQUIPMENT AND FURNISHINGS (2) Macauley

Kitchen planning and selection of equipment including materials, construction, installation, operation, care, and relative cost; floor plans and specifications. 1 lec., 2 lab. Prereq., 327. Fee, \$2.

348. INSTITUTION MANAGEMENT (3) Macauley

Principles of organization and administration which apply to food units in school lunch rooms, and public and private institutions. Administration of labor; standards of work; cost control. Prereq., 327.

433. SPECIAL PROBLEMS IN CHEMISTRY OF FOODS AND NUTRITION (2 or 3) Miller

An intensive study of a phase of food chemistry or nutrition. Maximum credit in course, 6 hrs. Prereq., 326 and Chem. 113—Organic Chemistry. Fee, \$5.

HOME ECONOMICS IN EDUCATION

350h. PROBLEMS IN THE TEACHING OF HOME ECONOMICS (1 to 3) Patterson

(Same as Ed. 350h). Opportunity for individual selection of problems. Maximum credit in course, 6 hrs. Prereq., 18 hrs. and 268h—Teaching of Home Economics.

367. WORKSHOP IN HOME ECONOMICS EDUCATION (Summer session only) (2) Patterson

Individual and group projects directed toward the improvement of teaching of home economics at the secondary level. Prereq., 18 hrs. and permission. Fee, \$2.

368. VOCATIONAL HOME ECONOMICS (Summer session only) (3) Patterson

(Same as Ed. 368). History and philosophy of vocational homemaking education. Contemporary trends, methods, sources of materials, and evaluation. Observations arranged. Prereq., 268h—Teaching of Home Economics, or teaching experience in home economics.

368a. HOME ECONOMICS IN ADULT EDUCATION (Summer session only) (3) Patterson

Organization procedures, curriculum materials, and methods of conducting adult education groups in the field of education for family living. Prereq., 18 hrs.

368b. DEMONSTRATION TECHNIQUES (2) Miller

Practical experience in the demonstration of foods, equipment, or clothing. Planned for teachers and for those going into foods or public utility work. 4 lab. Prereq., 12 hrs. Fee, \$3.

450h. SPECIAL PROBLEMS IN THE TEACHING OF HOME ECONOMICS (2 or 3) Patterson

Intensive study of some phase of home economics education. Maximum credit in course, 6 hrs. Prereq., teaching experience in home economics.

HOME FURNISHING, EQUIPMENT, AND MANAGEMENT

330. WORKSHOP IN HOME FURNISHINGS (3) Campbell

Laboratory problems in advanced techniques in home furnishings, including upholstering and refinishing furniture, making slip covers and draperies, etc. 1 lec., 4 lab. Prereq., 4—Clothing and Textiles, and 7—The Home and its Furnishings; for non-majors, 7, 4 hrs. art, and permission. Fee, \$3.

331. ECONOMICS OF FURNISHINGS (2) Morse

A study of the production, distribution, and qualities of furnishings. Problems on china, glass, silver, furniture, bedding, rugs, etc. Prereq., 330; for non-majors, 6 hrs. economics.

334. HOUSEHOLD EQUIPMENT (3) Macauley

Household operating and equipment problems. A critical analysis of the use of equipment to establish standards for effective use. 2 lec., 2 lab. Prereq., 2—Foods, Nutrition and Meal Planning, and 8—Selection and Purchase of Consumers' Goods. Fee, \$3.

351. HOME MANAGEMENT (2) Campbell

Economic use of time, energy, and money in the successful functioning of the home from the viewpoint of the satisfaction of members of the family. Prereq., 2—Foods, Nutrition and Meal Planning, and 8—Selection and Purchase of Consumers' Goods, or 6 hrs. sociology.

353. HOME MANAGEMENT LABORATORY (3) Campbell

Residence in the home management house for half a semester provides experience in the use of human and material resources of the family for the optimum development of its members. A charge is made to cover room and board. Prereq., 351 or with 351, and permission.

358. PROBLEMS IN FAMILY ECONOMICS (1 to 3) Campbell

Individual investigation of family income, expenditures, and standards of living. Minimum standards of living are emphasized. Planned for majors in social work. Prereq., 351 or 6 hrs. sociology and permission.

452. SPECIAL PROBLEMS IN HOUSEHOLD EQUIPMENT AND HOME MANAGEMENT (2 or 3) Campbell, Macauley

An intensive study of the efficient management of time, energy, or money in the home. Maximum credit in course, 6 hrs. Prereq., 351 and 353.

HUMAN RELATIONS

Professors Anderson, Patrick,
Starcher (chairman), Felsted*
Assistant Professor B. R. Black
Acting Instructor Campbell

Students who desire to major in human relations will be accepted on the basis of an interview with the graduate committee of the department. The committee will determine the student's fitness, preparation, and background in human relations.

The background of the student should consist of not fewer than 18 hours in social sciences. In addition the candidate must have specific undergraduate preparation in the appropriate field or area of interest in human relations. In rare and unusual cases the graduate committee of the department may accept other training and experience in lieu of some of the above requirements.

*On leave of absence.

A major in human relations leading to either the Master of Arts or the Master of Science degree shall consist of a minimum of 16 hours in courses approved by the graduate committee of the department, including 303 and 304 if the student has not taken these courses on the undergraduate level.

For a minor in human relations, the student is required to have the prerequisites for each course approved for the minor program.

301. MARRIAGE (3) Patrick and Associates Elliott, Houf, Hudson, V. M. Roberts, Rowles

A clinical approach to the problems of dating, courtship, marriage, parenthood, and childhood adjustments in the light of scientific and philosophical thinking of today. Prereq., 12 hrs. social sciences, or 6 hrs. social sciences and 6 hrs. biology. Fee, \$1.

- 303-304. HUMAN RELATIONS (3-3) Anderson, B. R. Black, Starcher

A course taught by the case method, designed for students interested in studying the habits and skills of analysis, judgment, and action important to people in all walks of life. Prereq., permission. Fee, \$1 a semester.

- 491-492. LABORATORY IN STUDENT PERSONNEL WORK

(1 to 3—1 to 3) The Staff

A study of the divisions of student personnel functions and techniques used in counseling. The correlation of theory and practice in student personnel office work and guidance and counseling services. Prereq., 18 hrs. social sciences and permission. Fee, \$1 a semester.

- 493-494. SEMINAR IN STUDENT PERSONNEL ADMINISTRATION

(2-2) The Staff

Designed for those specializing in student personnel work. Emphasis on philosophy and current trends in student personnel work and administrative procedures for effective coordination of services within a student personnel program. Prereq., 18 hrs. social sciences and permission.

495. THESIS IN STUDENT PERSONNEL WORK

(1 to 6) The Staff

Prereq., permission.

INDUSTRIAL ARTS

Associate Professor Kinison

Assistant Professors Paige (chairman), L. V. Calvin

Instructors Perry, Tinetti

A student electing a graduate major in industrial arts shall have completed an undergraduate minor of 24 hours in industrial arts or its equivalent as determined by the graduate committee of the Industrial Arts Department.

To begin a graduate minor in industrial arts, the student will be expected to have had a minimum of 9 hours of approved work.

309. ADMINISTRATION OF THE GENERAL SHOP (3) Perry

Supervision and administration as related to the general shop. Types of organization, laboratory planning, equipment selection, tool storage, and accounting systems are topics studied. Prereq., 12 hrs.

326. HISTORY OF INDUSTRIAL AND VOCATIONAL ARTS (3) Calvin

A study of the history of industrial arts from its beginnings to the present, including the Smith-Hughes Law and the George-Dean Act and their administration in Ohio.

328. SPECIAL PROBLEMS IN INDUSTRIAL ARTS (1 to 3) Kinison, Paige
A research course where individual problems are selected for investigation, solution, and reporting. Maximum credit in course, 6 hrs.

- 450a, b, c, d. ADVANCED WORK IN WOOD, METAL, PRINTING,
OR POWER (2) Calvin, Kinison, Paige, Perry

Advanced laboratory work in the wood, metal, printing, or power areas along with a study of the industrial practices in the field selected. The course may be repeated in different areas for a maximum credit of 6 hours. 4 lab. Prerequisites are as follows. For *Wood*: 1, 2—General Woodworking. For *Metal*: 13—General Cold Metals, 14—General Hot Metals. For *Printing*: 11—Duplicating, 141—Printing. For *Power*: 3—Practical Electricity, 4—Practical Power and Transportation. Fee, \$2.

457. CURRICULUM BUILDING IN INDUSTRIAL ARTS (3) Kinison

A study of the building of a complete industrial arts curriculum and of the constructing of the several courses that make up the curriculum. Prereq., 16 hrs.

471. ADMINISTRATION AND SUPERVISION OF INDUSTRIAL
EDUCATION (3) Calvin

This course is a study of the philosophy of industrial education, of the Federal Laws pertaining to vocational education and of the problems and practices of administration and supervision of vocational and nonvocational industrial education in the public schools. Prereq., permission.

481. RESEARCH IN INDUSTRIAL ARTS (1 to 3) Kinison, Paige

Students are directed in the investigation of selected phases of the theory and practice of industrial education. Maximum credit in course, 6 hrs. Prereq., 15 hrs. and Ed. 488, or concurrently with Ed. 488.

491. SEMINAR IN INDUSTRIAL ARTS EDUCATION (1 to 3) Calvin, Tinetti

Reports on recent books and magazine articles, and reports based upon original research will be given and followed by group discussion and criticism. Maximum credit in course, 6 hrs. Prereq., 15 hrs.

495. THESIS (1 to 6) The Staff

Prereq., permission.

ITALIAN—See Romance Languages

JOURNALISM

Professors Lasher, Hortin (acting director)
Assistant Professors Turnbull, Gillespie
Instructor McCreanor

The School of Journalism offers graduate work in all its five sequences: (1) News Writing and Editing, (2) Advertising-Management, (3) Feature and Pictorial Journalism, (4) Public Relations, (5) Radio Journalism.

To begin a graduate major, a student should have a minimum of 12 hours of basic journalism courses and 6 additional hours of approved work in journalism or related fields.

To begin a graduate minor in journalism, courses indicated as prerequisites, or approved equivalents, are required. These prerequisites usually total 6 to 12 hours.

306. NEWSPAPER AND COMMUNICATIONS LAW (2) Hortin

Principles and case studies of the law of the press with emphasis on constitutional guaranties, libel, contempt, privacy, copyright, privilege, and administrative controls. Some consideration of regulations pertaining to radio and television. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, and 217—Newspaper and Magazine Editing.

307. REPORTING OF PUBLIC AFFAIRS (2) Hortin

This advanced course includes a study of governmental, civic, and business organizations: courts, legal procedure, city and county government, state and national organizations, banks, political parties, and community activities. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, 111—Reporting Practice, or permission.

308. JOURNALISM ETHICS (2) Lasher

Consideration of such newspaper, magazine, television, and radio problems as news suppression, publicity, questionable advertising and business methods, and propaganda. Constructive handling of news is stressed. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, and 217—Newspaper and Magazine Editing; or Radio 179—Introduction to Radio, and Radio 280—Radio News Writing and Editing.

322. FEATURE AND MAGAZINE WRITING (3) Hortin

A study of newspaper, magazine, and pictorial features, followed by practice in writing and marketing of various types. The course includes finding subjects, securing photographs, writing articles, and surveying markets. Prereq., 103—Introduction to News Writing, and 107—Newspaper Reporting, or 12 hrs. of English, or permission.

323. ADVANCED FEATURE AND MAGAZINE WRITING (2) Hortin

Students are permitted wide range in selecting feature subjects. High-grade writing is stressed with definite idea of publication. Prereq., 322.

325. THE EDITORIAL PAGE (3) Lasher

A study of the editorial page as to purpose, style, and effect. Training is given in writing interpretative news articles, columns, and all types of editorials. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, 111—Reporting Practice, or 12 hrs. of English, or permission.

327. PUBLIC RELATIONS TECHNIQUES (2) Turnbull

Study and practice of fundamental public relations functions. Emphasis is placed on polling, publicity writing, and preparation of literature of business organizations—house organs, reports, pamphlets, advertisements, leaflets, manuals, and letters. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, 146—Typography, Mechanics, and Make-Up, or permission.

328. PUBLIC RELATIONS (3) Turnbull

This course deals with the study of advanced public relations problems, policies, and practices of various institutions and organizations in modern society. Attention is focused on public relations program development. Prereq., 327 or permission.

329. INDUSTRIAL AND BUSINESS JOURNALISM (2) McCreonor

Study of industrial, business, and institutional publications. Analysis of contents, purposes, and readership of such publications. Practice in copy preparation and make-up. Staff, costs, printing, and circulation are considered. Prereq., 103—Introduction to News Writing, 107—Newspaper Reporting, 111—Reporting Practice, 146—Typography, Mechanics, and Make-Up.

343. NEWSPAPER MANAGEMENT

(2) Turnbull

A study of the problems and economics of publishing. Consideration is given to policy making as it affects all departments of the newspaper plant.

348. ADVERTISING PRODUCTION

(2) Turnbull

Study of mechanical, graphic, and creative methods of advertising production; comparative analysis of printing processes; relation of color, art work, type, media, and quality of paper to advertising purpose; study of cost and controls. Prereq., Advt. 155—Advertising Principles, and 247—Newspaper Advertising and Layout, or Advt. 332, or permission.

370. INTERNSHIP

(3) The Staff

A conference course open only to students who have completed their internship work with an approved organization. Students will submit a comprehensive report involving analysis and problems encountered during the summer training. Prereq., permission.

375. SPECIALIZED JOURNALISM

(3) The Staff

This course is designed for students desiring training in special fields—science, sports, society, politics, military, community journalism, home economics, agriculture, religious activities, teaching journalism, music, and other approved areas. Prereq., permission.

381. RESEARCH IN JOURNALISM

(2 to 8) The Staff

Special studies in one or more phases of journalism. Prereq., 18 hrs. in journalism and advertising, and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

LATIN—See Classical Languages**MANAGEMENT**

Professor Hellebrandt (chairman)

Assistant Professor Levinson

Instructor Davis

To begin a major in the field of management a student should have completed Principles of Economics, Elementary Accounting, and Statistics. In addition, it is desirable that at least some of the following be included in the undergraduate preparation: General Psychology, General Sociology, Finance, Marketing Principles, Advertising Principles, or Business Law.

To begin a minor in management the student must have completed Principles of Economics.

301. PRODUCTION MANAGEMENT

(3) Hellebrandt

An introduction to the more important production procedures and techniques commonly used by progressive manufacturing plants. Deals with methods of supervision used at the lower levels of management in the production field more than with the problems of policy formulation which confront the factory manager. Case and semi-laboratory method used. Prereq., permission. Fee, \$3.

302. PRODUCTION MANAGEMENT

(3) Hellebrandt

Covers practical training in the more important types of problems encountered by executives at the level of the executive factory manager. The main objective is to develop the ability to analyze and solve problems in management control of production and in the formulation of production policies. Case method used. Prereq., 301, or permission. Fee, \$1.

312. ADMINISTRATION OF PERSONNEL

(3) Davis, Levinson

A comprehensive survey in the principles of management of people in business organizations and institutions. Among the subjects treated are employee selection, training and rating; labor turnover; job analysis; wage and salary administration.

321. MOTION AND TIME STUDY

(2 or 3) Hellebrandt

Methods work, work simplification and time study as tools of management to develop methods of determining operating standards, production control, and wage rate determination. Prereq., permission. Fee, \$3.

325. INDUSTRIAL RELATIONS

(2 or 3) Hellebrandt

Objectives, establishment and procedures of collective bargaining; administration of collective bargaining agreements; labor-management cooperation; the methods of conciliation, mediation, and arbitration of disputes. Taught by case method. Prereq., permission.

332. WAGE AND SALARY ADMINISTRATION

(2) Davis, Levinson

The factors determining industrial wage and salary policies, methods of employee payments, wage relationships, wage rate setting, incentive wage plans. The techniques and methods of implementing wage and salary policies. Prereq., 302 or 312.

381. RESEARCH IN MANAGEMENT

(2 to 8) The Staff

Special studies in industrial organization and scientific management. Prereq., 16 hrs. economics and/or commerce including Mgt. 301 or 312, and permission.

391. SEMINAR IN MANAGEMENT

(2 to 4) The Staff

Maximum credit in course, 10 hrs. Prereq., 15 hrs. management and/or economics and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

Additional courses: Ec. 335—Labor Economics, Ec. 338—Labor Legislation, Stat. 341—Business Cycles, Stat. 345—Forecasting.

MARKETING

Professor Krauskopf

Associate Professor Paynter (chairman)

In order to begin a graduate major or minor in marketing, the student will be expected to have Principles of Economics, 6 hours; Principles of Marketing, 3 hours; and enough additional work in economics and/or commerce, or approved equivalent work, to bring the total to 18 hours.

301. RETAIL SELLING POLICIES

(3) Paynter

The organization and operation of retail institutions.

302. RETAIL BUYING AND STOCK CONTROL

(3) Paynter

A study of buying, receiving, and stock control practices in retail stores. Prereq., 301.

311. RECENT TRENDS IN MARKETING AND SELLING

(3) Krauskopf,
Paynter

326. INDUSTRIAL PURCHASING AND INDUSTRIAL MARKETING

(3) Paynter

The purchasing and selling of industrial goods.

341. FOREIGN TRADE

(3) Paynter

A study of the theories of foreign trade and of the problems met by concerns engaged in importing and exporting.

346. FOREIGN MARKETS

(2) Paynter

A study of foreign markets from the point of view of the American exporter.

352. PROBLEMS IN SALES MANAGEMENT

(2) Krauskopf

An advanced course considering problems of sales administration and selling policies by the case method. Prereq., 258—Marketing Problems, or 271—Principles of Personal Selling, and 276—Sales Management.

381. RESEARCH IN MARKETING

(2 to 8) The Staff

Research methods, market data, and methods of conducting market surveys. Prereq., 18 hrs. commerce including 5 hrs. marketing, and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

MATHEMATICS

Professors Marquis (chairman), Denbow

Associate Professor Goedicke

Assistant Professor Riggs

A student may begin a graduate major with 21 hours of mathematics, including Differential and Integral Calculus and at least one 300 level course.

To begin a minor a student will be expected to have completed 18 hours of mathematics, including Differential and Integral Calculus.

301. THEORY OF EQUATIONS

(3) Denbow

The roots of unity, roots of an equation, isolation of real roots, numerical solutions, determinants and matrices, systems of linear equations, and symmetric functions.

304. ADVANCED CALCULUS

(3) Riggs

Critical treatment of certain topics in calculus. Limits, continuity, differentiation of functions of one and several variables, series, and definite and multiple integrals.

308. PROJECTIVE GEOMETRY

(3) Marquis

Elements, primitive forms, duality, projectively related forms, curves and ruled surfaces of the second order, Pascal's and Brianchon's theorems, poles and polars, and the theory of involution.

315. DIFFERENTIAL EQUATIONS

(3) The Staff

The formation of a differential equation, types of equations solvable by a transformation, linear equations, integration in series, simultaneous linear equations, and differential equations from mechanics and physics.

318. LINE INTEGRALS AND VECTOR ANALYSIS

(3) Denbow

Complex numbers, partial derivatives and applications, line integrals, potential functions and fluid flow, and vector analysis.

326. THEORY OF STATISTICS

(3) Goedicke

Basic concepts of statistics treated theoretically. Advanced theory and practice, multiple and partial correlation, advanced sampling theory, and testing of statistical hypotheses. Prereq., 107—Elementary Statistics.

330. FOURIER ANALYSIS

(3) Goedicke

The properties of orthogonal functions and the application of Fourier series and Fourier-Bessel series to boundary-value problems of physics. Prereq., 315.

351-352. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE

(3-3) Marquis

Prereq., 301 and 315.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

MECHANICAL ENGINEERING—See Engineering

MUSIC

Professors Ingerham, Ahrendt (director)

Associate Professors Fontaine, Peterson, Glenn

Assistant Professors Kresge, Longstreet, Roach

Thackery, Witzler, Merritt, Minelli

Instructors Brophy, Marshall, Jennings, Hazelrigg

Visiting Lecturers Arment, Brobst

To major in music, a student should present a 3.0 undergraduate average (B) for all work in the area of major interest. In addition, an applicant for admission to graduate study in music is required: (1) to have finished successfully a four-year undergraduate curriculum in music or music education, or the equivalent in hours and content, from an institution which holds membership in The National Association of Schools of Music; (2) to demonstrate ability to carry graduate work in the major field or take further undergraduate preparation. In cases where the undergraduate degree is not in the same area planned for graduate study, the student must demonstrate a level of achievement fully equivalent to the bachelor's degree in the field concerned.

All graduate programs are based upon 32 hours of work beyond the bachelor's degree, with the exception of music therapy which requires 36 hours of work. All programs are divided into a major and minor area. A student wishing to do graduate work in composition or music literature is required to take a minimum of 16 hours in the major area with the minor work distributed in any of the other music courses. A thesis is required in music literature and an original composition in a large form for the composition major. In applied music the major may be 16 hours of applied music including 4 hours for the graduate recital in lieu of a thesis. The minor field may include any of the other areas offered in the School of Music. Music education majors take from 20-26 hours in music education and music, including 4 hours for thesis or a recital in lieu of a thesis. The minor in music education includes from 6-12 hours in the area of education. Music therapy majors are required to earn 14 hours in music therapy, 12 hours in psychology, and 10 hours may be selected from graduate courses in music.

APPLIED MUSIC

Fee for all applied music (piano, voice, organ, strings, woodwind, brass, percussion), \$20 a semester hour. Practice room fee, \$3 a semester hour, except organ which is \$10 a semester hour.

(Note: A description of the proficiency requirements for applied music may be secured from the School of Music.)

331-332. PIANO ENSEMBLE (1-1) The Staff

Participation in the playing of original works or arrangements for two pianos. Prereq., permission.

351-352. CHAMBER MUSIC (1-1) The Staff

Participation in the playing of the standard chamber music literature. Prereq., permission.

375. ADVANCED CONDUCTING (1 to 4) The Staff

An opportunity for study and practical experience in either choral or instrumental conducting. Maximum credit in course, 6 hrs. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony; 273—Conducting; permission.

431. VOICE (2 to 4) Merritt, Peterson, Roach

Maximum credit in course, 16 hrs. Prereq., permission.

433. PIANO (2 to 4) Fontaine, Hazelrigg,
Jennings, Longstreet

Maximum credit in course, 16 hrs. Prereq., permission.

435. ENSEMBLE (2 to 4) The Staff

Maximum credit in course, 16 hrs. Prereq., permission.

437. STRINGED INSTRUMENTS (2 to 4) Ingerham, Marshall

Maximum credit in course, 16 hrs. Prereq., permission.

439. WOODWIND INSTRUMENTS (2 to 4) Brobst, Witzler

Maximum credit in course, 16 hrs. Prereq., permission.

441. BRASS INSTRUMENTS (2 to 4) Brophy, Minelli, Thackrey

Maximum credit in course, 16 hrs. Prereq., permission.

443. PERCUSSION INSTRUMENTS (1 or 2) Minelli

Maximum credit in course, 8 hrs. Prereq., permission.

495. RECITAL (4) The Staff

A full-length public recital, a recording of which will be filed in the library, in lieu of thesis. Prereq., permission. Fee charged by Radio Department based on length and type of program.

MUSIC HISTORY AND LITERATURE

337. THE LITERATURE OF VOCAL MUSIC (2) Peterson

A survey of representative literature from the fields of oratorio, choral music, and the art song. Prereq., F.A. 123-124—History of Music.

338. THE LITERATURE OF ORCHESTRAL MUSIC (2) Ingerham

The development of orchestral literature from the classic through the contemporary. Prereq., F.A. 123-124—History of Music.

339. THE EVOLUTION OF THE OPERA (2) Roach

Prereq., F.A. 123-124—History of Music.

340. THE LITERATURE OF PIANO MUSIC (2) Fontaine

A comprehensive study of the development of the instrument, the primary forms adapted to it, and the representative composers. Prereq., F.A. 123-124—History of Music.

401, 402. MUSIC LITERATURE (3, 3) Arment

A survey of the literature of music with emphasis on style, form and content. Prereq., F.A. 123-124—History of Music, and permission.

495. THESIS (1 to 6) The Staff

Prereq., permission.

THEORY AND COMPOSITION

307-308. ARRANGING AND SCORING FOR BANDS (2-2) Minelli

Scoring and arranging for the modern marching and symphonic band. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony; 233—Instrumentation.

313-314. ORCHESTRATION (2-2) Ahrendt

Scoring for small, medium, and full orchestra. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony.

315-316. ADVANCED HARMONY (2-2) Kresge

A study of the evolution of harmony to the present, including the new methods of chord structure in modern harmony. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony.

317-318. COUNTERPOINT (2-2) Fontaine

Single counterpoint in all species in two, three, or four parts. Development of motive, double counterpoint, free writing on original themes. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony.

319-320. COMPOSITION (2-2) Ahrendt

Original writing in the smaller forms. Prereq., 3-4—Theory; 103-104—Dictation and Sight Singing; 105-106—Harmony.

357-358. COUNTERPOINT (2-2) Fontaine

Double and triple counterpoint with and without free parts. Special attention is given to the *Inventions and Partitas* of Bach. Prereq., 318.

371-372. COMPOSITION (2-2) Ahrendt

Original writing in the larger forms. Prereq., 320.

384. RESEARCH IN MUSIC (2 to 4) The Staff

A project course in which the student selects, under the guidance of the instructor, subjects for special investigation. Prereq., 30 hrs. or the equivalent, and 12 hrs. English.

409-410. CANON AND FUGUE (2-2) Fontaine

A critical study of the classic canon in all its forms. Complete familiarity with the *Well-Tempered Clavichord* is expected. A fully-developed original fugue in four voices is necessary for credit. Prereq., 358 and permission.

425-426. COMPOSITION (2-2) Ahrendt

Extensive writing in the larger vocal and instrumental forms. Prereq., 372.

427-428. ADVANCED ORCHESTRATION

(2-2) Ahrendt

Problems in scoring original works for the modern symphony orchestra. Satisfactory scores are performed by the University Symphony Orchestra. Prereq., 314 and 318.

429. SIXTEENTH CENTURY COUNTERPOINT

(2) Fontaine

A detailed study of the techniques of the period, particularly as evidenced in the works of Palestrina and Lassus. Original writing in the sixteenth century modal style. Prereq., 318 and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

MUSIC EDUCATION**376. MUSIC CLINIC-WORKSHOP**

The Staff

Maximum credit in course, 6 hrs.

- a. Music Clinic-Workshop (Summer only)

(2 to 4)

Fee, \$4.

- b. Opera Workshop (Summer only)

(2)

Fee, \$3.

470. CONTEMPORARY TRENDS IN MUSIC EDUCATION

(2) Glenn

Prereq., 160—Introduction to Music Education, 266j—Music in the Junior and Senior High School, Ed. 283 or 284—Student Teaching in Special Subjects, and permission.

471. PROBLEMS IN THE SUPERVISION OF VOCAL MUSIC

(2) Glenn

Investigation of problems connected with teaching and supervision of vocal music encountered during service. 2 lec., lab. as required. Prereq., 160—Introduction to Music Education; 265—Vocal Techniques and Materials; 266f—Supervision of Music in the Elementary School; 266j—Music in the Junior and Senior High School; 2 hrs. of observation; 4 hrs. of student teaching.

472. PROBLEMS IN THE SUPERVISION OF INSTRUMENTAL

MUSIC (3) Minelli

Investigation of the problems connected with teaching and the supervision of instrumental music encountered during service. 2 lec., lab. as required. Prereq., 160—Introduction to Music Education; 261—String Techniques and Materials; 263-264—Wind and Percussion Techniques and Materials; 2 hrs. of observation; 4 hrs. of student teaching.

473. EXPERIMENTAL STUDIES IN MUSIC

(3) Glenn

A survey of important psychological investigations bearing upon musical composition, performance and appreciation. Prereq., 30 hrs. and General and Educational Psychology.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

MUSIC THERAPY**377. BACKGROUND OF MUSIC THERAPY**

(3) The Staff

The history of the use of music in mental hospitals and clinics; present trends; state and private hospital programs. Prereq., 30 hrs.; 9 hrs. of psychology or equivalent; special permission. Fee, \$3.

379. MUSIC THERAPY

(2 to 6) The Staff

A workshop course in methods, materials and procedures of conducting a music therapy program in hospitals and clinics. Prereq., 377 or by special permission. Fee, \$12.

PAINTING—See Art**PHILOSOPHY**

Professors Gamertsfelder, Houf (chairman)
Assistant Professor Creegan

Only students who have received a 3.0 average in their undergraduate courses in philosophy and a 2.5 average in other undergraduate courses will be admitted as majors in philosophy. Prerequisites for beginning a graduate major are 12 hours, including 103—Introduction to Philosophy; or 2—Life's Meaning and Moral Philosophies, and 209—Logic and Scientific Method; or 1—Principles of Reasoning (or equivalents for transfer students), and 6 hours in English or American literature, or 6 hours in a social science, or 6 hours in a natural science, or approved equivalents.

Prerequisites for beginning a graduate minor are 6 hours in philosophy courses, including 103—Introduction to Philosophy, or 2—Life's Meaning and Moral Philosophies.

301. HISTORY OF IDEAS: ANCIENT AND MEDIEVAL (3) Gamertsfelder

The ideas and systems of thought which developed in the context of natural science, government, morals, religion, and art, and which were embodied in the changing culture of the West.

302. HISTORY OF IDEAS: MODERN (3) Gamertsfelder

The ideas of modern thinkers in relation to the changing elements of western culture, with attention to the Renaissance, the Enlightenment, empiricism, rationalism, idealism, materialism, Marxism, positivism, realism, and pragmatism.

304. ADVANCED SOCIAL PHILOSOPHY (2 or 3 as scheduled) Creegan

The philosophy of social institutions and social programs. The competing political philosophies, with their meanings for the state, economic activities, education, and general culture. Emphasis upon the problems of democracy. Not open to students who have had 117—Social and Political Philosophy.

306. CONTEMPORARY THOUGHT (2) Creegan, Gamertsfelder

The reading and discussion of selections from representative philosophers of the present and recent past. Acquaintance is made with the leading schools and movements in present-day philosophy.

308. THE HISTORY AND MEANING OF SCIENCE (2 or 3 as scheduled) The Staff

This course aims primarily to acquaint the student with the meaning and methods of science as an element of human culture, present and past.

309. PHILOSOPHY OF RELIGION (3) The Staff

The meaning of religion; relation of religion to other aspects of culture; Christianity and other religions; the existence and nature of God; prayer, the soul, and immortality; skepticism and faith.

310. MINOR STUDIES IN PHILOSOPHY (1 to 3) The Staff

A critical study of selected areas or types of philosophy, or an investigation of important movements. Subjects such as aesthetics, philosophy of history, semantics, recent European philosophy, Oriental philosophy, metaphysics. Maximum credit in course, 12 hrs.

491. SEMINAR IN PHILOSOPHY (2 or 3 as scheduled) The Staff

Especially assigned problems are treated or the writings of important philosophers are read and critically examined. Maximum credit in course, 6 hrs. Prereq., 15 hrs.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

PHOTOGRAPHY

Visiting Lecturers White, Truxell

For prerequisites, see Art.

379-380. COMMERCIAL AND ILLUSTRATIVE PHOTOGRAPHY (5-5) White

Studio and outdoor illustration toward the picture story. Introduction to problems of commercial studio operation and free-lance photography. 2 lec., 8 lab. Prereq., 77-78—Basic Photography; 143-144—Photographic Processes; 145—Workshop in Photography; 277-278—Portraiture; or permission. Fee, \$5 a semester.

381. ADVANCED WORKSHOP IN PHOTOGRAPHY (3) White

Individual assignment of advanced problems. Maximum credit in course, 6 hrs. 6 lab. Prereq., 77-78—Basic Photography; 143-144—Photographic Processes; 145—Workshop in Photography; 277-278—Portraiture; or permission. Fee, \$3.

391-392. COLOR PHOTOGRAPHY (3-3) White

Theory of color, additive and subtractive synthesis, color filters and their uses, color temperature of light sources, use of transparent materials, direct color printing, separation negative methods, dye transfer printing, and masking methods. Individual assignments. 6 lab. Prereq., 77-78—Basic Photography; 143-144—Photographic Processes; 277-278—Portraiture or 379-380; permission. Fee, \$6 a semester.

481. RESEARCH IN PHOTOGRAPHY (4) The Staff

Special projects in photographic technique and practice. Maximum credit in course, 8 hrs. (4 hrs. per semester). Prereq., 20 hrs. including 381 and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

PHYSICAL EDUCATION AND ATHLETICS

Associate Professors Nessley (assistant director),
Hatcher (chairman, women's department), Trepp, Rhoads

A student wishing to begin a graduate major or minor in physical education will be expected to present a minimum of 24 hours of approved work in physical education, or equivalent work as approved by the Division of Physical Education and Athletics.

304. HISTORY AND PRINCIPLES (3) Hatcher, Rhoads

Systems of physical education from the time of the Greeks and their effects on our present program; principles underlying physical education in the modern program of education. Prereq., Zool. 133—Anatomy, Kinesiology, and Physiology.

306. ORGANIZATION AND ADMINISTRATION (2) Hatcher, Nessley

Readings and discussions about typical methods of organizing and administering physical education, school and community health, recreation and athletics in elementary and secondary schools, private schools and colleges.

309. TESTS AND MEASUREMENTS

(3) Nessley

A study of available tests and measurements for health education, physical education and athletics, to determine their place, use and possibilities in the program; practice in handling testing data by elementary statistical methods.

349. COMMUNITY RECREATION

(3) Nessley

For those interested in guiding leisure time programs. Topics include: brief history of the play movement, programs and program building, general administration of playgrounds, community centers, and recreational activities.

352. PHYSICAL DIAGNOSIS

(3) Hudson and Staff

A study of the fundamental deficiencies and defects characteristic of children that handicap normal physical, mental, and social development and the techniques in conducting health examinations, clinical service, etc.

395. SCHOOL HEALTH PROBLEMS

(3) Trepp

A study of the principles, problems, organization and administration of school health programs, including school and community relationships. Prereq., 267h—Teaching of Health.

491. SEMINAR IN PHYSICAL EDUCATION AND ATHLETICS

(3) Nessley and Staff

For graduate students who wish to do research and investigation in health education, physical education, recreation or athletics. Topics and problems suitable for thesis writing, trends of the program, methods of research, writing practice and critical analysis of outlines for research study. Prereq., 24 hrs. of undergraduate credit in physical education.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

PHYSICS

Professor Edwards (chairman)

Associate Professors McClure, Pierce

Assistant Professor Randall

The minimum undergraduate preparation for a graduate major is 18 hours in physics and Integral Calculus.

The minimum undergraduate preparation for a graduate minor is 8 hours in physics and Integral Calculus.

305. LIGHT: INTRODUCTION TO PHYSICAL OPTICS

(3) Randall

Laws of geometric optics, theory of interference, diffraction, polarimetry, electromagnetic waves, dispersion, double refraction, and other selected topics. Experimental basis of concepts is emphasized.

308. X-RAYS

(2) Randall

Principles and applications of X-rays to physics, medicine, and industry. X-ray production, absorption, detection, quantum and classical scattering, refraction and applications to crystal structure, metallurgy and therapy.

309. HEAT

(3) Pierce

Temperature, expansivity, dynamical theory of heat, calorimetry, specific heats, thermal conduction, thermal properties of gases, change of phase, convection, radiation.

310. THERMODYNAMICS

(3) Pierce

Temperature, work, first and second laws, Carnot cycle, entropy, applications to special systems, change of phase. Emphasis on relation of thermodynamics to physical processes. Prereq., 309.

314. MODERN SPECTROSCOPY

(3) Randall

Origin of spectra, Bohr theory, term schemes and ground states, atomic energy levels, electronic configurations, ionization potentials, one-, two-, and three-electron spectra, elementary quantum mechanics, Zeeman and Stark effects.

319, 320. ELECTRICITY AND MAGNETISM

(3, 3) McClure

An advanced course including electrochemical properties, the calculation of magnetic fields by integration methods, a study of transient currents through inductive and capacitive circuits, Maxwell's equations.

325. MECHANICS LABORATORY

(1 or 2) Pierce

Kater's pendulum, impact, moment of inertia, gyroscope, viscosity, bending of beams, coupled pendulums. Fee, \$5.

326. HEAT LABORATORY

(1 or 2) Pierce

Mechanical equivalent, heat of combustion, determination of gamma, conductivity, specific heat of carbon, absolute expansion of mercury, flame temperature. Fee, \$5.

327. OPTICS LABORATORY

(1 to 3) Randall

Dispersion, resolving power, Fresnel and Fraunhofer diffraction, Newton's rings, Michelson interferometer, grating, refractometer, polarimeter, measurement of wave length. Use of precision apparatus and accurate results emphasized. Fee, \$5.

328. SPECTROSCOPY LABORATORY

(1 to 3) Randall

Qualitative and quantitative analysis by emission and absorption methods in visible and ultraviolet regions, prism and grating spectrometers. Experimental techniques in calibration, sources, standards, mountings, spectrophotometry, photographic procedure. Fee, \$5.

329. ELECTRONICS AND ELECTRICAL MEASUREMENTS LABORATORY

(1 to 4) Edwards

Charge on the electron, specific charge of electron, thermionic emission, resonance potentials, discharge through gases, photoelectricity, electron diffraction. Study of ballistic galvanometer, dielectric constants, magnetic hysteresis, transients. Fee, \$5.

330. X-RAYS AND RADIO ACTIVITY LABORATORY

(1 to 3) Edwards

Crystal analysis, X-ray spectral distribution curves with ionization spectrometer, absorption coefficients and limits, Moseley's law, scattering and polarization. Geiger counters and curved crystal spectrograph. Radioactive decay and radiation analysis. Fee, \$5.

349-350. ATOMIC PHYSICS

(3-3) Edwards

An introduction to atomic physics designed for students in physics, chemistry, mathematics or engineering. Topics include elementary particles, mass spectrographs, high energy electromagnetic spectrum, nuclear energy and reactions.

352. INTRODUCTION TO QUANTUM MECHANICS

(3) Pierce

Review of classical mechanics; selected topics in quantum mechanics. Prereq., Math. 315 and permission.

361. MINOR PROBLEMS IN PHYSICS

(1 to 4) The Staff

The course permits qualified students to carry out minor research in any field of physics in order to increase their knowledge and techniques. Prereq., 15 hrs. and permission. Fee, \$5.

405-406. THEORETICAL PHYSICS

(4-4) Edwards

Advanced dynamics, Lagrange's equations, Hamilton's principle, canonical equations, Hamilton-Jacobi equations, hydrodynamics, statistical mechanics, kinetic theory. Prereq., Math. 315 and permission.

411-412. ADVANCED ATOMIC STRUCTURE AND THEORY OF QUANTA

(3-3) The Staff

Elementary constituents of the atom, hydrogen-like atoms and their spectra, general theorems of optical spectra, quantum theory, X-ray and molecular spectra. Prereq., Math. 315 and permission.

481. RESEARCH IN PHYSICS

(1 to 3) The Staff

Maximum credit in course, 6 hrs. Prereq., 15 hrs. and permission. Fee, \$5.

491. SEMINAR IN PHYSICS

(1) The Staff

Prereq., 15 hrs.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

PSYCHOLOGY

Professors Lehman, Anderson,
Patrick (chairman), Scott, Paulsen, Gentry
Instructor Cable

To begin a graduate major in psychology the student must present an undergraduate scholastic average of 3.0 (B), with a minimum of 18 hours of psychology or equivalent work, as approved by the department.

To begin a graduate minor in psychology, a minimum of 6 hours in psychology is required.

301. ADVANCED EXPERIMENTAL PSYCHOLOGY

(3) Paulsen

Research on a topic selected by the student. Prereq., 109—Experimental Psychology. Fee, \$3.

303. MENTAL MEASUREMENTS

(3) Anderson, Cable

The administration, methods, and results of individual and group intelligence tests. 2 lec., 1 lab. Fee, \$1.

304. PSYCHOLOGY OF EXCEPTIONAL CHILDREN

(2) Lehman

The growth and development of nontypical children. Speech disorders, auditory defects, visual defects, delinquency, psychopathy, special talents and defects are considered.

305. CLINICAL PSYCHOLOGY

(3) Gentry

A survey of methods and some practice in diagnosing certain vocational and educational abilities and disabilities in children and adults. Prereq., 303. Fee, \$1.

307. COMPARATIVE AND GENETIC PSYCHOLOGY

(3) Patrick

Behavior of lower and higher organisms leading up to man is considered. A comparative-genetic-psycho-biological approach is maintained. 2 lec., 2 lab. Fee, \$3.

309. MOTIVATION AND EMOTIONS

(3) Patrick

The dynamics of animal and human behavior: a study of drives, desires, incentives; a study of emotion in relation to frustration of motives.

310. MENTAL HYGIENE

(3) Patrick

The course aims to evaluate and synthesize information bearing upon mental health from the following fields: psychology, psychiatry, physiology, medicine, and sociology.

312. ABNORMAL PSYCHOLOGY

(3) Scott

Considers man's mental deviations from the normal; the theory, application, and limitations of psychoanalysis; methods of studying abnormal mental processes. Clinics at hospitals. 2 lec., 1 lab. Prereq., 8 hrs., or 6 hrs. and 6 hrs. zoology. Fee, \$1.

315. SOCIAL PSYCHOLOGY

(3) Paulsen

A study of the behavior of man as influenced by group membership, with emphasis on the individuals' interaction as a basis of change of motives, attitudes and personality.

316. PSYCHOLOGY OF INDIVIDUAL DIFFERENCES

(2) Lehman

The extent and the nature of individual differences, the influence thereupon of such factors as heredity, environment, race, nationality, age, and sex. Miscellaneous applications are also considered.

317. PSYCHOLOGY OF PERSONALITY

(3) Gentry

The nature of personality, as revealed in interrelations of biological, psychological, and cultural concepts. Prereq., 8 hrs. Fee, \$1.

320. PERSONNEL AND VOCATIONAL COUNSELING

(2) Paulsen

Topics dealt with will bear upon personnel and vocational problems to be met in industrial, commercial, and school work.

323. RESEARCH METHODS AND TECHNIQUES

(2) Paulsen

Study of research methods especially suited to handling problems in social sciences. Major emphasis is placed on the application and interpretation of statistical techniques.

325. MINOR PROBLEMS IN PSYCHOLOGY

(1 to 3) The Staff

Training in the scientific study of some problem of special interest to the student. Relatively independent work emphasized. Maximum credit in course, 6 hrs. Prereq., 8 hrs. and permission.

333. LEARNING AND MEMORY

(2) Anderson

Lectures and readings attempting to systematize the experimental and theoretical work in this field. Prereq., 8 hrs.

335. HISTORY OF PSYCHOLOGY

(2) Scott

The evolution of methods and concepts of psychology with emphasis on more recent trends. Prereq., 8 hrs.

337. COUNSELING AND PSYCHOTHERAPY

(3) Patrick

Analysis, evaluation, and practice in use of techniques and procedures in counseling and psychotherapy. Fee, \$1.

481. RESEARCH IN PSYCHOLOGY

(2 to 4) The Staff

Prereq., 15 hrs. and permission.

494. ADVANCED SEMINAR IN PSYCHOLOGY

(2 to 4) The Staff

Trends and methods in psychology are critically reviewed. Cooperative investigations, findings of many studies coordinated with the student's own findings. Prereq., 15 hrs. and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

RADIO—See Dramatic Art and Speech**ROMANCE LANGUAGES**

Professors Noss, Whitehouse,
Wilkinson, Ondis

Associate Professors Renkenberger (chairman), Rice

To begin a graduate major in Romance languages, the student should have 28 hours of undergraduate work in one Romance language.

To begin a graduate minor in Romance languages, the student should have 16 hours of undergraduate work in one Romance language.

FRENCH**301, 302. SURVEY OF FRENCH LITERATURE (1 to 4, 1 to 4) The Staff**

A general view of French literature from the beginnings. Special topics for investigation by advanced students. Collateral readings and reports. Prereq., 102—Intermediate French.

303, 304. READINGS FROM FRENCH LITERATURE (1 to 4, 1 to 4) The Staff

Selections vary with the needs of the class or the student. Maximum credit in course, 16 hrs. Prereq., 102—Intermediate French.

305, 306. THE FRENCH NOVEL (1 to 3, 1 to 3) The Staff

History of the novel in France from the Middle Ages to modern times. Prereq., 102—Intermediate French.

311, 312. SEVENTEENTH CENTURY DRAMA (1 to 3, 1 to 3) Noss

A study of the comedies of Moliere and the tragedies of Corneille and Racine. Prereq., 102—Intermediate French.

319, 320. FRENCH ROMANTICISM (2, 2) Noss

A study of the development of lyric poetry, the novel, and the drama during the first half of the nineteenth century. Prereq., 102—Intermediate French.

328. SIXTEENTH CENTURY FRENCH LITERATURE (2 or 3) Rice

Development of French thought during the Renaissance. Prereq., 6 hrs. beyond 102—Intermediate French.

331, 332. SEVENTEENTH CENTURY FRENCH LITERATURE (2 or 3, 2 or 3) Noss

Seventeenth century French literature with the exception of the drama. Selected readings from Malherbe, Descartes, Pascal, La Fontaine, Mme. de Sevigne, Boileau, Mme. de Lafayette, La Rochefoucauld, La Bruyere, and Fenelon. Prereq., 102—Intermediate French.

335, 336. EIGHTEENTH CENTURY FRENCH LITERATURE (1 to 3, 1 to 3) Renkenberger

A study of the literature of France from 1715 to the Revolution. Prereq., 102—Intermediate French.

339, 340. NINETEENTH CENTURY FRENCH DRAMA (1 to 4, 1 to 4) Renkenberger, Wilkinson

History of the French drama beginning with the preromantic movement. Special topics for investigation by advanced students. Collateral readings and reports. Prereq., 102—Intermediate French.

344. ADVANCED FRENCH COMPOSITION (1 or 2) Wilkinson
Includes drill in pronunciation with phonetics. Prereq., 102—Intermediate French.

361-362. ADVANCED FRENCH GRAMMAR (1 to 3—1 to 3) Wilkinson
This course should be taken after or simultaneously with R. Philol. 325. Prereq., 3 yrs. of college French or B in 102—Intermediate French.

371. ADVANCED FRENCH (1 to 4) Noss
Specialized courses in seventeenth and nineteenth century literature designed to meet the special interests of advanced students. Maximum credit in course, 16 hrs. Prereq., 6 hrs. beyond 102—Intermediate French.

381. RESEARCH IN FRENCH LANGUAGE AND LITERATURE (1 to 4) The Staff
A course designed to promote independent work in the study of special linguistic and literary problems. Maximum credit in course, 16 hrs. Prereq., 12 hrs. beyond 102—Intermediate French, and permission.

421-422. ROMANCE PHILOLOGY (OLD FRENCH)
See Romance Philology.

495. THESIS (1 to 6) The Staff
Prereq., permission.

ITALIAN

301, 302. SURVEY OF ITALIAN LITERATURE (1 to 3, 1 to 3) The Staff
Prereq., 102—Intermediate Italian.

303, 304. READINGS FROM ITALIAN LITERATURE (1 to 4, 1 to 4) The Staff
Selections may vary with the needs of the class. Prereq., 102—Intermediate Italian.

371. ADVANCED ITALIAN (1 to 4) The Staff
Advanced work in language and literature. Maximum credit in course, 16 hrs. Prereq., 6 hrs. beyond 102—Intermediate Italian.

495. THESIS (1 to 6) The Staff
Prereq., permission.

ROMANCE PHILOLOGY

325-326. GENERAL ROMANCE LINGUISTICS (1 or 2—1 or 2) The Staff
Introduction to graduate courses in philology. Prereq., Intermediate Fr., It., Lat., or Sp. 102.

421-422. ROMANCE PHILOLOGY (OLD FRENCH) (2-2) The Staff
Prereq., 16 hrs. in French and 16 hrs. in another Romance language or in Latin. R. Philol. 326 is advised but not required.

441-442. ROMANCE PHILOLOGY (OLD SPANISH AND PORTUGUESE) (2-2) The Staff
Prereq., 16 hrs. in Spanish and 16 hrs. in another Romance language or in Latin. R. Philol. 326 is advised but not required.

495. THESIS (1 to 6) The Staff
Prereq., permission.

SPANISH

- 301, 302. SURVEY OF SPANISH LITERATURE (1 to 3, 1 to 3) Ondis, Whitehouse
Historic and literary study of Spain from the Middle Ages to the present time. Prereq., 102—Intermediate Spanish.
- 303, 304. READINGS FROM SPANISH LITERATURE (1 to 4, 1 to 4) The Staff
Selections vary with the needs of the class and the student. Prereq., 102—Intermediate Spanish.
- 305, 306. THE SPANISH DRAMA (2 or 3, 2 or 3) The Staff
Sp. 305 traces the drama in Spain from its origins to 1700; Sp. 306, from 1700 to the present. Prereq., 102—Intermediate Spanish.
307. THE GOLDEN AGE (2 or 3) Ondis, Whitehouse
Historic and literary study of the sixteenth and seventeenth centuries. Prereq., 102—Intermediate Spanish.
308. CERVANTES (1 to 3) Ondis, Whitehouse
The chief works of Cervantes, with particular attention to the *Novelas Ejemplares* and the *Quijote*. Prereq., 102—Intermediate Spanish.
- 311, 312. SPANISH AMERICAN LITERATURE (1 to 3, 1 to 3) Ondis, Whitehouse
Important literary productions of the chief Spanish American countries are read. Prereq., 102—Intermediate Spanish.
313. NINETEENTH CENTURY SPANISH LITERATURE (2 or 3) Ondis, Whitehouse
Prereq., 102—Intermediate Spanish.
314. CONTEMPORARY SPANISH LITERATURE (2 or 3) Ondis, Whitehouse
Prereq., 102—Intermediate Spanish.
- 315, 316. THE SPANISH NOVEL (2 or 3, 2 or 3) The Staff
Sp. 315 covers the evolution of the novel in Spain from the earliest times to 1700; Sp. 316, the Spanish novel from 1700 to the present. Prereq., 102—Intermediate Spanish.
- 351, 352. ADVANCED SPANISH GRAMMAR (3, 3) Ondis
Peculiarities of Spanish grammar and syntax. Analysis of difficult texts. Free composition and oral reports. Prereq., 102—Intermediate Spanish.
371. ADVANCED SPANISH (1 to 4) The Staff
Advanced study or research in Spanish or Spanish American literature, subject to be selected after consultation between instructor and students. Maximum credit in course, 8 hrs. Prereq., 6 hrs. beyond 102—Intermediate Spanish.
381. RESEARCH IN SPANISH (2 to 4) Ondis, Whitehouse
Prereq., 12 hrs. beyond 102—Intermediate Spanish, and permission.
- 441-442. ROMANCE PHILOLOGY (OLD SPANISH AND PORTUGUESE)
See Romance Philology.
495. THESIS (1 to 6) The Staff
Prereq., permission.

SCULPTURE—See Art

SOCIOLOGY

Associate Professor Jeddelloh (acting chairman)
Acting Assistant Professors Dahlke, Allen

To begin a graduate major in sociology, the student will be expected to have completed a minimum of 12 hours in sociology, with additional approved work in sociology, economics, or psychology to total 18 hours.

To begin a minor in sociology, the student will be expected to have a minimum of 6 hours in sociology.

304. SOCIOLOGY OF RECREATION (3) The Staff

The historical antecedents and the contemporary functions of recreation and leisure in modern society; theories of motivation; sociologically important trends in contemporary art, music, drama, motion picture, the dance, literature, sports, outdoor living, and travel; community programs of recreation.

305. SOCIAL GROUP WORK (3) The Staff

An introduction to the principles, methods, techniques, and agencies of group work. Interpreting the group management approach to personality development in social education.

306. SOCIAL GROUP WORK SERVICES (2) The Staff

Student field training in the leadership of junior and adolescent groups. Prereq., 8 hrs., including 305. Fee, \$5.

308. MARRIAGE AND THE FAMILY (3) Dahlke, Jeddelloh

A study of the institutional and human nature aspects of modern marriage and the family; the formation of personality in the parental family, courtship and marriage relations, family and marital disorganization.

310. SOCIAL THEORY (3) Dahlke

The earliest social thought; the major contributions of sociologists to social thought with emphasis on recent trends.

311. CRIMINOLOGY AND PENOLOGY (3) Jeddelloh

The course surveys general facts with respect to crime, the criminal and his treatment, recent scientific studies of criminals, methods of crime prevention, and improvements in institutional treatment, probation and parole. Field visits to courts and correctional institutions.

312. POPULATION PROBLEMS (3) The Staff

Population studied from the standpoint of numbers and quality in the United States and other sections of the world. Differential fertility, birth control, eugenics, and other problems of population are treated.

318. URBAN SOCIOLOGY (3) Jeddelloh

The historical development of cities in western society; cities by location, function, and region; trends in urban population; ecological and cultural studies of urban areas; urban problems of welfare, housing, and recreation; city and regional planning.

321. CONTEMPORARY SOCIAL MOVEMENTS (3) Dahlke

The better-known Utopian and socialistic philosophies. The two significant social experiments of the present time, communism and fascism. The more recent proposals for achieving a planned and controlled social order.

322. JUVENILE DELINQUENCY (3) Jeddleloh

Factors associated with juvenile delinquency, characteristics of delinquents, juvenile court procedure, probation, correctional training in institutions, plans and programs for the prevention of delinquency. Field contact and the handling of realistic data.

324. CHILD WELFARE (3) Allen

Consideration of the legislation providing for child care and protection and the study of problems of children, with emphasis on the function of the family and such substitutes of family services as foster home and institutional care.

326. MEDICAL INFORMATION FOR SOCIAL WORKERS (3) The Staff

The causes, symptoms, transmission and theory of the treatment of illness, with emphasis on communicable diseases and their control. An evaluation of the social components of physical and mental illness. Prereq., 9 hrs.

334. PUBLIC WELFARE (3) Allen

Local, state, and federal organization for relief and public assistance as provided by the Social Security Act. Prereq., 9 hrs. including 233—Fields of Social Work.

335. PUBLIC WELFARE ADMINISTRATION (3) The Staff

The history, functions, and problems of organization and administration of public welfare in local, state, and federal governments.

336. PROPAGANDA AND MASS COMMUNICATION (3) Dahlke

Determinants of public opinion, application and evaluation of opinion surveys, propaganda technique and analysis, mass communication in its relation to control, social attitudes, the development of mass culture.

338. OBSERVATION IN INSTITUTIONS AND SOCIAL AGENCIES

(1 to 5) Allen, Jeddleloh

Observing the functions, methods, and performance of an agency while it is engaged in its day by day activities. The student will participate through assigned tasks; in addition, the student will report to the training supervisor for conferences. Placement during the semester or summer. Prereq., 9 hrs., permission.

339. CASE WORK (2) Allen

An introductory course in the understanding of the case work process and the development of techniques of interviewing, recording, case analysis and treatment. Prereq., 12 hrs. including 233—Fields of Social Work, and permission.

340. CASE WORK (2) Allen

Continuation of Soc. 339 which broadens and deepens the understanding and skills developed in the previous course and which applies to the more advanced type of case in actual practice. Prereq., 12 hrs. including 339, permission.

341. FIELD WORK SERVICES (2) Allen

Interviewing, investigation, follow-up studies and the beginnings of case work performance in social agencies. Students will be expected to set aside the afternoon hours of the week for work in the cooperating agencies. Prereq., 12 hrs. including 339, permission. Fee, \$5.

342. FIELD WORK SERVICES (2) Allen

Case work in social agencies. Students must reserve the afternoon hours of the week for work in the cooperating agencies. Prereq., 15 hrs. including 340 and 341, permission. Fee, \$5.

349. CASE WORK IN PUBLIC WELFARE (3) Allen
The functions, materials, and the special approach of case work with the aged. Prereq., 12 hrs. including 339 or equivalent professional experience; permission.
350. ADVANCED CASE WORK IN PUBLIC WELFARE (3) The Staff
An intensified and enriched course in the principles and procedures of the case work approach to the problems of the aged. Prereq., 15 hrs. including 339 and 349 or equivalent professional experience; permission.
353. INSTITUTIONAL SOCIAL SERVICE (3 to 5) Allen, Jeddelloh
Social work in correctional institutions and institutions for the care of children. The course includes training in staff duties at the institution. Prereq., 12 hrs. and permission.
355. INTERNSHIP TRAINING IN JUVENILE COURTS (3 to 6) Allen, Jeddelloh
Training in staff duties in juvenile courts on an internship basis, supplemented by a controlled program of study and research. Prereq., 15 hrs.
357. INTERNSHIP TRAINING IN SOCIAL AGENCIES (3 to 8) Allen, Jeddelloh
Case work training in social agencies on an internship basis under the immediate supervision and direction of the agencies and the general control and program planning of the University. Prereq., 15 hrs. and permission.
370. IN-SERVICE TRAINING (1 to 3) The Staff
In-service training for court and welfare personnel at the request of organizations, agencies, and institutions. Upgrading and "refreshing" of workers in particular professional situations on the basis of field conditions and needs.
372. COMMUNITY SURVEY AND PLANNING (1 to 3) The Staff
At the request of organizations, agencies, and institutions, community leaders and groups are trained in the planning and management of particular community studies, surveys, and planning projects.
381. SOCIAL RESEARCH (3) The Staff
The methods of quantitative and qualitative social research are presented. Procedures for planning, organizing, and conducting research projects are analyzed. Applications are made to specific problems by the students. Prereq., 9 hrs. and a course in statistics.
382. RESEARCH PROBLEMS IN SOCIOLOGY (1 to 3) The Staff
Prereq., 12 hrs., permission.
491. SEMINAR IN SOCIOLOGY (2 or 3) The Staff
Prereq., 15 hrs.
495. THESIS (1 to 6) The Staff
Prereq., permission.

SPANISH—See Romance Languages

SPEECH AND SPEECH CORRECTION—See Dramatic Art and Speech

STATISTICS

Instructor Soltow (chairman)

To begin graduate study in statistics a student should have an undergraduate preparation of approved course work in business statistics and economics. The graduate program will be developed in combination with other fields in commerce.

303. VARIABLES

(3) The Staff

The application of sampling theory to industrial operations. A course in industrial statistics especially recommended for students interested in production control. Prereq., 255—Business Statistics, and Ec. 101-102—Principles of Economics.

341. BUSINESS CYCLES

(3) The Staff

A study of the nature, causes, and theory of the business cycle together with a survey of techniques of description and control. Prereq., 255—Business Statistics, or with 255 and Ec. 101-102—Principles of Economics.

345. FORECASTING

(3) The Staff

The theory of prediction of social data and the theory of business forecasting with special reference to economic conditions and the business cycle. Prereq., 255-256—Business Statistics, and Ec. 101-102—Principles of Economics. May be taken with 256.

381. RESEARCH IN BUSINESS STATISTICS

(2 to 8) The Staff

Prereq., 13 hrs. of commerce including 255-256—Business Statistics, and permission.

391. SEMINAR IN BUSINESS STATISTICS

(2 to 4) The Staff

Maximum credit in course, 10 hrs. Prereq., 18 hrs. of commerce including 255-256—Business Statistics, and permission.

495. THESIS

(1 to 6) The Staff

Prereq., permission.

Additional course: Math 326—Theory of Statistics.

ZOOLOGY

Professors Krecker, Elliott (chairman),

Frey, Stehr

Associate Professor Rowles

Assistant Professors Seibert, Lawrence, McQuate

For a graduate major in zoology the student will usually be expected to have completed at least 18 hours of approved subjects in zoology or in related fields approved by the department.

For a graduate minor a student will usually be expected to have completed a minimum of 10 hours in zoology or in related fields approved by the department.

302. VERTEBRATE EMBRYOLOGY

(4) McQuate

All phases of vertebrate development are considered, and particular emphasis in laboratory is given to the chick and pig. 2 lec., 6 lab. Prereq., 120—Comparative Vertebrate Anatomy. Fee, \$7.

305. PRINCIPLES OF PHYSIOLOGY

(4) Rowles

Physio-chemical composition of living material; properties of solutions, membranes and enzymes; physiology of various body systems. Not open for graduate credit to students majoring in physiology. Organic Chemistry valuable. 2 lec., 6 lab. Prereq., 120—Comparative Vertebrate Anatomy, and Chem. 2 or 4—General Chemistry. Fee, \$6.

309. BIOLOGICAL CHEMISTRY

(4) Rowles

Introduction to physical chemistry of true and colloidal solutions; principles of enzyme action; chemistry of and tests for: carbohydrates, proteins, fats; digestion and metabolism; chemical analysis of: blood, bile, milk, urine. 2 lec., 4 lab. Prereq., 4 hrs. physiology, Chem. 113—Organic Chemistry, and Chem. 117—Organic Chemistry Laboratory. Fee, \$7.

311. GENERAL BACTERIOLOGY

(4) Frey

A study of the structure, classification, and relationships of bacteria; preparation of cultures, staining, and biochemical reactions. Not open for graduate credit to majors in bacteriology. 2 lec., 4 lab. Prereq., 4—Principles of Zoology, and Chem. 113 or 201—Organic Chemistry. Fee, \$6.

312. PATHOGENIC BACTERIOLOGY

(4) Lawrence

Microorganisms in relation to diseases. A study of disease manifestations, methods of transmission, means of protection and immunity. 2 lec., 4 lab. Prereq., 311. Fee, \$6.

314. MICROBIOLOGICAL TECHNIQS

(2) Frey, Lawrence

A practical course designed to give the student extensive experience in the use of bacteriological technics and equipment. 4 lab. Prereq., 311 or 241—Elementary Bacteriology, and Organic Chemistry. Fee, \$3.

316. ANIMAL PARASITES

(4) Lawrence

A study of parasites in relation to human disease. Parasites infesting man, their life histories, the diseases they produce, and means of prevention. 2 lec., 4 lab. Prereq., 10 hrs. and permission. Fee, \$6.

317. ADVANCED GENERAL BACTERIOLOGY

(4) Lawrence

A study of bacteria as living systems. Subjects considered will include: growth requirements, enzyme systems, intermediary and end products formed, influence of environmental factors and bacterial taxonomy. 2 lec., 4 lab. Prereq., 311 or 241—Elementary Bacteriology, and Organic Chemistry. Fee, \$7.

320. ADVANCED ENTOMOLOGY

(4) Stehr

Study of insect morphology and the principles of insect classification and identification, with emphasis on the more extensive orders. 2 lec., 4 lab. Prereq., 219—General Entomology. Fee, \$5.

325-326. INVERTEBRATE ZOOLOGY

(4-4) Stehr

A study of the structure, relationships, and life histories of representative members of the various invertebrate phyla, together with related general principles. 2 lec., 4 lab. Prereq., 10 hrs. and permission. Fee, \$5 a semester.

327. ANIMAL ECOLOGY

(4) Seibert

A detailed study of the effect of environment on animals as well as their physiological and structural adaptations. Includes the effect of temperature on rate of development; photoperiod; metabolism; osmotic regulation. Experimental methods in field and laboratory. 2 lec., 4 lab. or field work. Prereq., 216—Animal Communities. Fee, \$5.

343. BIOLOGICAL STUDIES (1 to 4 a semester in any of the following areas)

Semi-independent studies under the guidance of the instructor. Maximum credit in any one area, 8 hrs. Prereq., 10 hrs. and permission. Fee, \$3.

- a. *Bacteriology*—studies in water, dairy, and pathogenic bacteriology; serology and advanced technic. Frey, Lawrence.
- b. *Ecology*—field and laboratory studies of the relation between animals and their surroundings. Seibert, Stehr.
- c. *Entomology*—classification, structure, life histories, and economic aspects of insects. Stehr.
- d. *Genetics*—breeding experiments, pedigree analysis, and library work in the field of heredity. McQuate.
- e. *Invertebrate Zoology*—classification, structure, embryology, and life history of invertebrates. Krecker, Stehr.
- f. *Parasitology*—animal parasites. Lawrence.
- g. *Physiological Zoology*—physiological and related experimental studies. Rowles.
- h. *Readings in Biology*—readings dealing with biological history, theory, and advances. Krecker.
- i. *Technicians' Methods*—technic and theory of blood, urine, gastric analysis, fecal examination, and serological methods. Frey.
- j. *Vertebrate Anatomy*—gross and microscopic anatomy, embryology, histological technic. Elliott, Lawrence, McQuate.
- k. *Vertebrate Zoology*—classification, life history studies. Seibert.

391. SEMINAR IN ZOOLOGY

(1) The Staff

A study of special topics and reports on current literature. Maximum credit in course, 4 hrs. Prereq., 16 hrs. and permission.

413. BACTERIOLOGICAL REVIEW

(2) Frey

An advanced theoretical course in bacteriology. Special reference is made to dissociation, bacterial growth curves, anaerobiasis, oxidation and reduction, and bacterial metabolism. Prereq., 12 hrs. bacteriology and permission.

483. MINOR RESEARCH IN BIOLOGY

(1 to 4 a semester in any of the subjects) The Staff

Problems of a research and semi-research nature in all areas listed under 343. Maximum credit in course, 8 hrs. Prereq., 15 hrs. and permission. Fee, \$3.

485. RESEARCH IN BIOLOGY

(1 to 4) The Staff

Research work in all areas listed under 343. This course fulfills the thesis requirement. Maximum credit in course, 4 hrs. Prereq., 20 hrs. and permission. Fee, \$3.

OHIO UNIVERSITY

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*On leave of absence.

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